INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT
OF THE
REACTION CONTROL
SYSTEM
Vol. 4 of 5

26 FEBRUARY 1988

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2018		BASELINI NEV		
MDAC ID:	ARCS 2018 FUSE, 1A				
LEAD ANALYST:	D. HARTMAN	4			
ASSESSMENT:					
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LEAD ANA	LYST:	D. HA	RTMAI	1						
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SUBSYSTEM:	ARCS 2024 LATCHING RELAY, RJDA BUS	A	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
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SUBSYSTEM:	ARCS 2026 LATCHING RELAY, RJDA B	US B	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2027 LATCHING F	RELAY, RJI	DA BUS C		
LEAD ANALYST:	D. HARTMAN	ī			
ASSESSMENT:					
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2028 LATCHING RELAY,			
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2029 RESISTOR,	5.1K 1/	4W											
LEAD ANALYST:	D. HARTMA	N												
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT I	D:	ARCS-2	2038					NASA DA' BASELI N	NE			
SUBSYSTE MDAC ID: ITEM:	M:		ARCS 2038 RESIST	ror,	2.21	X 1/2	W						
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

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SUBSYSTE MDAC ID:				ARC 204 RES		1.	2K 2W							
LEAD ANA	LY	ST	:	D.	HARTMA	N								
ASSESSME	NT:	:												
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

05-6KA-2111-1.

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SUBSYSTEM MDAC ID: ITEM:			ARC 20- RE	44	'OF	٤,	1.2K	21	W									
LEAD ANA	LYST:		D.	HAR	TM	IAN	ī											
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LEAD ANA	LYS	T:	D. H	ARTMA	N								
ASSESSME	NT:												
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SUBSYSTEM MDAC ID:		ARCS 2046 RESI		1.2	K 2W						
LEAD ANA	LYST:	D. H	ARTMAI	N.							
ASSESSME	NT:										
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SUBSYSTE MDAC ID:				ARC 204 RES	7	1.8	3K 1/41	N .						
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	IL):	AR	cs-2	2048	97-1					DATA: LINE NEW	[
SUBSYSTE MDAC ID: ITEM:				ARC 204 RES	48	ror,	1.8	K 1/4	W						
LEAD ANA	LYS	T:	:	D.	HAI	RTMA	N								
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LEAD ANA	LY	ST	:	D.	HARTMA	N								
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	TN	ID:	ARCS		97-1			N	IASA DA BASELI N]]
SUBSYSTE MDAC ID:	M:		ARCS 2050 RESI		2.2	K 1/2V	Ī					
LEAD ANA	LYS	r:	D. H	ARTMA1	1							
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ASSESSME ASSESSME NASA FME	NT I	D:	ARCS	-205		1		1	NASA D BASEL	INE	-]	
SUBSYSTE MDAC ID:			ARCS 2051 RESIS	STOR	, 1.8	BK 1/4	W						
LEAD ANA	LYSI	':	D. H	ARTM	AN								
ASSESSME	NT:												
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		W/FU	_	7	Ą	В		C	3		IIE	iPI	
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REMARKS: A SHORT IOA RECO	ACRO.	SS A	RLR T	YPE	RESI	STOR	IS N	A TO	CREDII	BLE	FAI	LURE.	

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

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ASSESSME ASSESSME NASA FME	NT	II		ARC	9/88 5-2052 5KA-209	96-1					DATA LINE NEW			
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COMPARE	[/]	[]	[3	[]		E]	
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FME	T	ID	:	ARC	9/88 S-20 -6KA-	54	-1				NASA DA BASELI N	NE]	
SUBSYSTEM MDAC ID: ITEM:	M:			ARC 205 RES	54	R, 2	.2K 1	/2W							
LEAD ANA	LYS	T:		D.	HART	MAN									
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SUBSYSTE MDAC ID:				ARCS 2055 RESI		1.2	2K 2W					
LEAD ANA	LY	ST	:	D. H	ARTMA	N						
ASSESSME	ENT	:										
	CR			LITY	R	EDUN	IDANCY	SCF	REENS		CI	
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NASA IOA	[3	/3 /3]	[]	[]	[]	[] *
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ASSESSME ASSESSME NASA FME	NT	ID	:	AR	CS-2	05	6 109	4-1							DATA LINE NEW	[_		
SUBSYSTE MDAC ID:	M:			20	CS 56 SIST	OF	٤,	1.2K	2	W										
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	CRI		CALI				RI	EDUND	AN	CY	SCREE	ENS	3				IL TE			
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NASA IOA	[3	/1R /2R]		[P P]	[F F]	[P P]		[X]	*	
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IOA AGREES WITH NASA FMEA.

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SUBSYST			ARCS 2057			3K 1/4							
LEAD AND	ALYS	T:	D. H	ARTM	AN								
ASSESSMI	ENT:												
	CRI	TICAL	ITY	1	REDUN	IDANCY	SCI	REENS			CII	<u>L</u>	
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COMPARE	[/]	[)	[]	[]		C]	
RECOMMEN	DAT:	ions:	(I:	f dif	fere	nt fro	om N	IASA)					
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II):	ARC		6-1					DATA: LINE NEW	[_	
SUBSYSTE MDAC ID:				ARC 205 RES		1.8	K 1/4V	1						
LEAD ANA	LYS	ST:	:	D.	HARTMAN	1								
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RECOMMEN	DA!	ΓI	ONS:	; ((If dif:	fere	ent fr	om N	IASA)					
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NO DIFFE		NC:	ES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-205 05-6KA-2	9 1096 - 1			N.	ASA DATA BASELINE NEW			
SUBSYSTEM:	ARCS 2059 RESISTOR								
LEAD ANALYST:	D. HARTM	AN							
ASSESSMENT:									
CRITICALI FLIGHT HDW/FUN			ANCY B	SCREI	ENS C		CIL		
NASA [3 /3 IOA [3 /3] []	[]	[]]]	*
COMPARE [/] []	[]	[]	[J	
RECOMMENDATIONS:	(If di	fferent	t fr	om NAS	SA)				
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ISSUE RESOLVED ON (SHORT FAILURE MC	1/20/88 DE TO BE	AT MEI	ETING	WITH	SUE	SYSTEM 1	ANA	GER	1

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2060	6-1				ASA DA' BASELII Ni	NE			
	ARCS 2060 RESISTOR,	2.2K	1/2W							
LEAD ANALYST:	D. HARTMAN	ī								
ASSESSMENT:										
CRITICAL: FLIGHT		EDUNDA	NCY	SCREE	NS			CIL	ſ	
	NC A		В		С					
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COMPARE [/] []	[]	[1		[]	
RECOMMENDATIONS:	(If dif:	ferent	fro	m NAS	A)					
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ASSESSME ASSESSME NASA FME	ENT	ID:	ARCS	/88 -2061 KA-20		2			NASA DA BASELI N		x]
SUBSYSTE MDAC ID:			ARCS 2061 RESI	STOR,	1.2	2K 2W					
LEAD ANA	LYS	T:	D. H.	ARTMA	N						
ASSESSME	NT:										
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COMPARE	[/N]		[]	[]	[]		[]	
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REMARKS	:																		

IOA AGREES WITH NASA FMEA.

ASSESSMENT ID: NASA FMEA #:	ARCS-2063 05-6KA-2098	-1	NASA BASE	DATA: LINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2063 RESISTOR, 1			
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
FLIGHT		UNDANCY SC	REENS	CIL ITEM
HDW/FUN		В	C	
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If diffe:	rent from	NASA)	
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REMARKS: A SHORT ACROSS A IOA RECOMMENDS RE FMEA.	RLR TYPE RES MOVAL OF THE	SISTOR IS 1	NOT A CDENT	DIE EXTITE
ISSUE RESOLVED ON (SHORT FAILURE MO	1/20/88 AT DE TO BE REM	MEETING WI	ITH SUBSYST	EM MANAGER

ASSESSMEN ASSESSMEN NASA FME	NT ID:	1/29/ ARCS- 05-6K	2064	98-1			N	IASA DA BASELI N]	
SUBSYSTEMDAC ID:	M:	ARCS 2064 RESIS	TOR,	1.81	< 1/4T	N						
LEAD ANA	LYST:	D. HA	RTMAI	N								
ASSESSME	NT:											
	CRITICA FLIC		RI	EDUNI	DANCY	SCRE	ENS			CIL ITEN	M.	
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2065 RESIST	OR, 2.2K	1/2W										
LEAD ANALYST:	D. HAR	TMAN											
ASSESSMENT:													
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REMARKS: A SHORT ACROSS IOA RECOMMENDS FMEA.	INADEQUATE [] REMARKS: A SHORT ACROSS A RLR TYPE RESISTOR IS NOT A CREDIBLE FAILURE. IOA RECOMMENDS REMOVAL OF THE "SHORT" FAILURE MODE FROM THIS												
ISSUE RESOLVED (SHORT FAILURE	ON 1/20/8 MODE TO E	38 AT MEE 3E REMOVE	TING WITH	I SUBSYSTEM	MANAGER								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2066 05-6KA-20				NASA DA BASELI		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2066 RESISTOR,	, 2.2K	1/2W	1			
LEAD ANALYST:	D. HARTMA	AN					
ASSESSMENT:							
CRITICAL		REDUND	ANCY	SCREE	NS	CI IT	L EM
FLIGH HDW/FU		A	В		С		
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SUBSYST MDAC ID ITEM:	EM:			20		, 1.	8K 1/4	W					_	
LEAD AN	ALY	SI	!:	D.	HARTMA	AN								
ASSESSMI	ENT	:												
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ISSUE RES	SOL AIL	VE	D OI	N 1/2	20/88 <i>1</i> FO BE I	AT M	EETING VED).	W:	ITH SUB	SYST	EM M	ANA	GER	

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SUBSYSTEM MDAC ID: ITEM:	M:		ARCS 2068 RESIST	ror,	1.81	(1/4	W					
LEAD ANA	LYSI	: :	D. HA	RTMAN	1							
ASSESSME	NT:											
	CRITICALITY FLIGHT					DANCY	SCRE	ENS			CIL	
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NASA IOA	[3	3 /3]	[]]]	[[]		[] *
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SUBSYSTE MDAC ID:	M:			206	8								
LEAD ANA	LY	ST	:	D. 1	HARTMA	N							
ASSESSME	ENT	:											
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	ID:	1/29/8 ARCS-2 05-6K	2070				ľ	BASELI	NE			
SUBSYSTEMDAC ID:	M:		ARCS 2070 RESIS	ror,	2.21	K 1/2	W						
LEAD ANA	LYS	T:	D. HA	RTMAI	1								
ASSESSME	NT:												
		TICAL		RI	EDUNI	DANCY	SCRI	EENS			CIL		
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REMARKS:											•	•	

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SUBSYSTE MDAC ID:				ARC 207 RES	1	5.3	1K 1/4	₩						
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	I			NC	A		В		c	:		IT	SM	
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FME	TИ	ID	:	ARC	9/88 S-2072 6KA-209	3-1					DATA: LINE NEW	[
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SUBSYSTE MDAC ID:			ARC 207	es								
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COMPARE	[/]	C]	[]	[]		ĺ]
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REMARKS: NO DIFFE	REN	CES.						INA	DEQU	ATE	[]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-20	74 2094 - 1				SA DATA: ASELINE NEW	[
	ARCS 2074 RESISTO	R, 1.2K	2W					
LEAD ANALYST:	D. HART	MAN						
ASSESSMENT:								
CRITICAL FLIGH	ITY	REDUND	ANCY	SCREE	NS		CII	
HDW/FU		A	В		С			
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COMPARE [/N] []	[]	[]	[]
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FME	T T	D:	1/29/8 ARCS-2 05-6K	2076	8-1			N	ASA DA BASELI N	NE	[x		
SUBSYSTEM MDAC ID:	4:		ARCS 2076 RESIST	ror,	1.8K	1/4	W						
LEAD ANA	LYST	r:	D. HAI	RTMAN	ī								
ASSESSME	NT:												
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REMARKS:													

ASSESSMENT ASSESSMENT NASA FMEA	r DATE: r id: #:	1/29/ ARCS- 05-6K	88 2077 A- 20	98-1			N	ASA D BASEL	INE			
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LEAD ANALY	ST:	D. HAI	RTMAI	N								
ASSESSMENT	:											
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ASSESSME ASSESSME NASA FME	NT	IL		ARC	9/88 S-2078 6KA-209	8-1			N	IASA DA BASELI 1	INE			
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ASSESSM ASSESSM NASA FM	ENT 1	D:	ARCS-	-2079	_	L		N	ASA DA BASELI N		x]	
SUBSYST MDAC ID ITEM:			ARCS 2079 RESIS	TOR,	, 1.8	SK 1/4	W					
LEAD AN	ALYST	!:	D. HA	RTM	AN							
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

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SUBSYSTEM MDAC ID:	M:			208 RES	30	ror,	1.8	K 1/4W	Ī					
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ASSESSME	NT:	;												
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COMPARE	[/]		[]	[]	[]	[]	
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ISSUE RE (SHORT F	SOI AII	וחי נגי	EI RE	O ON	I 1 DE	/20/ TO	88 BE	AT RE	ME MOV	EET ÆD	ING	W:	ITH	st	JBSYS'	rem :	MAI	IAG]	ER	

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SUBSYSTEMDAC ID:	M:		AI 20 RI		or,	2.2K	1/2	N						
LEAD ANA	LYS	r:	D.	. HAR	TMAN									
ASSESSME	NT:													
			ALIT	Y	RE	DUNDA	MCY	SCREE	ns			CIL	vī.	
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SUBSYST MDAC ID ITEM:				208	33	or,	1.8	3K 1/	'4W							
LEAD AN	ALY	ST	:	D.	HAR	TMA	N.									
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL																
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FME	NT]	D:	ARCS	/88 -2084 KA-209					ASA 1 BASE		[]	
SUBSYSTEMDAC ID:			ARCS 2084 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	r:	D. H	ARTMAI	1								
ASSESSME	NT:												
		TICAL FLIGH		R	EDUN	DANCY	SCR	EENS			CIL		
		DW/FU		A		В		C	:				
NASA IOA	[:	3 /3 3 /3]	[[]	[]	[]		[] *	
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REMARKS:		CES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2085 05-6KA-209	97-1		N	ASA DATA BASELINE NEW]	
SUBSYSTEM: MDAC ID:	ARCS 2085 RESISTOR,							
LEAD ANALYST:	D. HARTMAN	ī						
ASSESSMENT:								
FLIGHT		DUNDANC	Y SCR			CIL	-	
HDW/FUN	IC A		В	С				
NASA [3 /3 IOA [3 /3] [] []	[]	[] *	
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REMARKS:				INAI	DEQUATE	Ì	j	
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ISSUE RESOLVED ON (SHORT FAILURE MO	1/20/88 A DE TO BE R	T MEETI EMOVED)	NG WIT	H SUE	SSYSTEM 1	IANA	3ER	

ASSESSME ASSESSME NASA FME	TИ	ID		ARC	9/88 S-2086 6KA-209	7-1					DATA: LINE NEW	[
SUBSYSTE MDAC ID: ITEM:	M:			ARC 208 RES		2.2	K 1/21	A .						
LEAD ANA	LYS	T:		D.	HARTMAN	Ī								
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	CRI		CAI	LTY	RI	EDUN	DANCY	SCR	EENS			CIL		
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NO DIFF	ERE	NC	ES.											

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	ARC	9/88 S-208 6KA-2		1			NASA BASE	LINI] x]	
SUBSYSTI MDAC ID: ITEM:			ARC 208 RES	-	, 5.	1K 1/	4 W						
LEAD ANA	ALYS'	r:	D.	HARTM	AN								
ASSESSME	ENT:												
		ricai Fligh	LITY	I	REDUI	NDANC'	Y SCR	REENS			CI		
			INC	2	4	1	3	(С		IT	EM	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	ſ	3	[]	[]		[]	
RECOMMEN	DATI	ons:	(3	[f dif	fere	ent fr	om N	ASA)					
	[/]	ι]	[]	[]	(A	[DD/[] DELET	ΓE)
CIL RE	TENT	'ION	RATIO	NALE:	(If	appl	icab	P	DEQU <i>I</i>		[]	
NO DIFFE	RENC	ES.											

ASSESSME ASSESSME NASA FME	NT :	ID	:	ARC	5-2088						DATA: LINE NEW	[]	
SUBSYSTEMDAC ID:				ARCS 2088 RES		5.1	.K 1/4	W						
LEAD ANA	LYS'	T:		D. 1	HARTMA	N								
ASSESSME	NT:													
				LTY	R	EDUN	IDANCY	SCF	REENS			CIL		
			IGH' /FUI	NC T	, A		E	3	C	3				
NASA IOA	[3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	[]	[1	[3		[]	
RECOMMEN	DAT	ΊΟ	ns:	(If dif	fere	ent fi	com 1	NASA)					
	[/]	[]	[]	[]	(Al	[DD/E		TE)
* CIL RE		TI	ON	RATI	ONALE:	(I 1	f appl	lical	1	_	JATE JATE	[]	
REMARKS: A SHORT IOA RECO	ACR	os ND	S A	RLR EMOV	TYPE	RES:	ISTOR "SHO	IS 1 RT" 1	NOT A	CRED	DE F	FA1 ROM	LUR THI	Œ. Is

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

FMEA.

ASSESSMEN NASA FMEA	T D T I	ATE: D:	1/29/ ARCS- 05-6K	88 2089 A-20	93-1]	NASA DAT BASELIN NE		·]
SUBSYSTEM MDAC ID: ITEM:	:		ARCS 2089 RESIS								
LEAD ANAL	YST	:	D. HA	RTMA	N						
ASSESSMEN	T:										
C	F	LIGH	ITY I NC							CII	
		•				В		(
NASA IOA	[3	/3 /3]	[]	[]	[]	[[] *]
COMPARE	[/]	[]	[]	[]	ſ	
RECOMMEND	ATI	ons:	(If	dif	feren	t fr	om NA	SA)			
	[/]	[]	[]	[[ADD/D] ELETE)
* CIL RET	ENT:	ION F	RATION	ALE:	(If	app1	icabl	A	DEQUATE]
REMARKS: A SHORT AC IOA RECOMI FMEA.	CRO: MENI	SS A DS RE	RLR T	YPE I	RESIS THE "	TOR :	IS NC I" FA	T A LLUR	CREDIBLI E MODE 1	E FAI FROM	LURE. THIS
ISSUE RESO	OLVI	ED ON	1/20/ DE TO	/88 / BE I	AT ME REMOV	ETING ED).	G WIT	H SU	BSYSTEM	MANA	GER

ASSESSMEN ASSESSMEN NASA FME	NT I		1/29/8 ARCS-3 05-6K	2090	93-1			1	NASA DA' BASELII N	NE	((x		
SUBSYSTEM MDAC ID:	M:		ARCS 2090 RESIS	ror,	5.1K	(1/4)	W						
LEAD ANA	LYST	:	D. HA	RTMAI	1								
ASSESSME	NT:												
		ICAL		RI	EDUNE	ANCY	SCRE	ENS			CIL		
	_	LIGH'		A		В		1	С			. -	
NASA IOA	[3	/3]	[.]	[]	[[]		[] ;	*
COMPARE	[/]	[]	[1	[3		C]	
RECOMMEN	DATI	ons:	(If	dif	ferer	nt fr	om NA	SA)					
	[/]	C]	ſ]	[]	(AI	[DD/D		TE)
* CIL RE	TENT	MOI	RATION	ALE:	(If	appl	icabl		ADEQUAT ADEQUAT		[]	
REMARKS:									. — •		-	•	

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	TW	TD.	APCC-	2001	98-1			1	NASA BASE		[]	
SUBSYSTE MDAC ID:			ARCS 2091 RESIS	TOR,	1.81	C 1/4	1W						
LEAD ANA	LYS'	T:	D. HA	RTMA	N								
ASSESSME	NT:												
				R	EDUNE	ANC	sc:	REENS					
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
NASA IOA	[:	3 /3 3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		(]	
RECOMMEN	DAT	ions:	(If	dif	feren	t fr	om 1	NASA)					
	[/]	Ĩ.]	[]	[]		[DD/D		TE)
* CIL RE	TENT	CION 1	RATION	ALE:	(If	appl	ical	•	DECIT		_		
REMARKS:									DEQU <i>I</i>		[]	
A SHORT IOA RECO FMEA.	ACRO MMEN	DSS A NDS RI	RLR T	YPE :	RESIS THE "	TOR SHOR	IS N	OT A FAILUR	CREDI E MOI	BLE E FF	FAI ROM	LUR THI	E. S

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II) :	ARC	9/88 S-2092 6KA-209	98-1			_		LINE NEW	[
SUBSYSTE MDAC ID: ITEM:				ARC 209 RES		1.8	K 1/4V	1						
LEAD ANA	LYS	ST	:	D.	HARTMAI	Ŋ								
ASSESSME	NT:	:												
	CR:		ICAI LIGH	YTI	RI	EDUN	IDANCY	SCR	EENS			CII		
	I		W/FU		A		В		C	:				
NASA IOA	[3	/3 /3]]]	[]] []		[]	*
COMPARE	[/]	[)	[]	[1		[]	
RECOMMEN	IDA'	rI:	ons:	: (If dif	fere	ent fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[DD/1		ETE)
* CIL RE	ETE	NT	ION	RATI	ONALE:	(II	fappl	icab	2		JATE JATE]	
REMARKS:		NC	ES.											

ASSESSME NASA FME	ENT ENT EA	D I #:	ATE: D:	1/2 ARC 05-	9/88 S-2093 6KA-20	3 98-:	1		•	NASA BASE		[
SUBSYSTE MDAC ID:	M:			209	S 3		2K 1/2							
LEAD ANA	LY	ST	:	D.	HARTMA	N.								
ASSESSME	NT	:												
	CR:	IT ਸ	ICAL LIGH	ITY	F	REDUI	NDANCY	SCF	REENS			CI		
	1			NC	A		В		(2		IT	SM	
NASA IOA]	3 3	/3 /3]]]	[]]]]		[]	*
COMPARE	[/]	[]	[]	[]		(]	
RECOMMEN	DA'	ľI	ons:	(:	If dif	fere	ent fro	om N	IASA)					
	[/]	[]	[]	£	3	(Al	[DD/I		ETE)
* CIL RE	TEI	1 T :	ION :	RATIO	ONALE:	(If	appli	icab						
200										DEQU?]	
REMARKS: A SHORT I IOA RECOI FMEA.	ACE MME	ROS	SS A	RLR EMOV	TYPE	RESI THE	STOR 1	S N	OT A AILUF	CREDI	BLE E FI	FAI ROM	LUF TH]	RE. [S

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	ID:	2	1/29/8 ARCS-2 05-6KA	094					BASELIN	ΙE	[[x]	
SUBSYSTE MDAC ID: ITEM:			2	ARCS 2094 RESIST	or,	2.2K	1/25	A						
LEAD ANA	LYS	T:	I	D. HAR	TMAN	ī								
ASSESSME	NT:													
		_	ALI	ΓY	RE	EDUND	ANCY	SCREE	ens	;		CIL ITEN	Л	
			GHT FUN	С	A		В			С			•	
NASA IOA	[3 / 3 /	'3 '3]]]	[]	[]		[] *	r
COMPARE	[/	,]	[]	[]	[]		[]	
RECOMMEN	DAT	ION	is:	(If	difi	feren	t fr	om NAS	SA)					
	[/	,]	[]	[]	[]	(AC	[D/D		ľE)
* CIL RE		TIC	ON R	ATION?	ALE:	(If	appl	icable	e) IN	ADEQUATI IADEQUATI	€	[]	
NO DIFFE	EREN	CES	3.											

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	ARC	S-2095					ASA I BASEI		[]	
SUBSYSTE MDAC ID:			209		1.2	2K 2W							
LEAD ANA	ALYS'	T:	D. 1	HARTMA	N								
ASSESSME	ENT:												
		TICAI FLIGH		R	EDUN	IDANCY	SC	REENS			CII		
				A		В		С			ITE	iM	
NASA IOA	[3 /3]	[]	[]]]		[]	*
COMPARE	[]	N /N]	[]	[]	[]		[]	
RECOMMEN	IDAT:	ions:	(1	f dif	fere	ent fro	om 1	NASA)					
	[/]	[]	[]	[]	(AI	[DD/D	ELE'	TE)
* CIL RE	TEN	rion	RATIC	NALE:	(If	appli	cal	•	SEOTIA		_	_	
REMARKS:								INAI	DEQUA DEQUA	TE	[]	
RLR42 TY WHICH CA INTO A F	PE I	HORT.	IOA	RECO	MMEN	DS THI	S I	FAILURE	BE	INCO	RPO	RATI	ED

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2	8 096 -2111-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2096 RESIST	OR, 1.2K	2W		
LEAD ANALYST:	D. HAF	RTMAN			
ASSESSMENT:					
CRITICA		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIG HDW/F		A	В	С	
NASA [3 /1] IOA [3 /2]	R] R]	[P] [P]	[F] [F]	[P] [P]	[X] * [X]
COMPARE [/N]	[]	[]	[]	[]
RECOMMENDATIONS	: (If	differen	t from N2	ASA)	
[/]	[]	[]	[] ([] ADD/DELETE)
* CIL RETENTION	RATION	ALE: (If	applicab	le) ADEQUATE INADEQUATE	[]
REMARKS: IOA AGREES WITH	NASA F	MEA.			

ASSESSMI NASA FMI	eni Eni Ea	; I	D:	AR 05	29/88 CS-209 -6KA-2	7 098-	1		N	iasa Bas	DATA ELINE NEW	[x]	
SUBSYSTE MDAC ID:	EM:			AR 20:	CS 97		8K 1/4							
LEAD ANA	LY	ST	:	D.	HARTM	AN								
ASSESSME	TN	:												
	CR	IT F	IC.	ALITY GHT	1	REDUI	NDANCY	sc	REENS			CI		
				FUNC	i	A	В		С			ΙT	EM	
NASA IOA	[3	/:	3] 3]] []	[]	[]		[]	*
COMPARE	[/]	[]	[]	ſ]		[]	
RECOMMEN	DA'	TI	ONS	5: (If di	fere	ent fro	om 1	NASA)					
	[/]	[]	[]	[)	(AI] DELE	ITE)
* CIL RE	TEI	TT.	ION	N RATI	ONALE:	(If	appli	.cal	Al	DEQU	ATE	[]	
REMARKS:					_						ATE	[-	
A SHORT A IOA RECOI FMEA.	ACI MMI	ROS ENI	SS DS	A RLR REMOV	AL OF	RESI THE	STOR I "SHORT	S N	NOT A (FAILURI	CRED E MO	OIBLE DE FR	FA]	LUR THI	E. S
ISSUE RES	SOI	LVI	ED	ON 1/ MODE	20/88 TO BE	AT M REMO	EETING VED).	WI	TH SUE	SYS	TEM M	AN2	\GER	

ASSESSME NASA FME	NT I	D:	ARCS-	2098	98-1			Ŋ	BASELI N		[]	
SUBSYSTE MDAC ID: ITEM:	M:		ARCS 2098 RESIS	ror,	1.81	K 1/4	W							
LEAD ANA	LYSI	!:	D. HAI	RTMAI	Ŋ									
ASSESSME	NT:													
			ITY	RI	EDUNI	DANCY	SCRE	ENS			CI	L EM		
	_	LIGH W/FU		A		В		c	:		11	.EM		
NASA IOA	[3	/3]	[]	[]	[]]]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif:	ferer	nt fr	om NAS	SA)						
	[/	1	[]	[]	[]	(AI	[DD/	'DE] LiE	TE
* CIL RE	TENT	'ION I	RATION	ALE:	(If	appl	icable	A	DEQUAT		[]	
REMARKS:										_	L			

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FEI SUBSYSTI	ENT A	I #:	D:		A)	/29/3 RCS-3 5-6K	88 209 A-2	9 098-1	L		N		DATA ELINE NEW	[x]	
MDAC ID					26	99	ror	., 2.2	2K 1/2	W						
LEAD AN	ALY	ST	:		D.	. HAI	RTM	AN								
ASSESSMI	ENT	:														
		Ľ.	LL	GH.	Ι.			REDUN	IDANCY	s	CREENS			CI:		
]	HD'	W/	FU	NC			A	В		С					
NASA IOA	[3	/	3 3]		[]	[[]	[[]		[]]	*
COMPARE	[/		J		[]	[]	ſ]		[]	
RECOMMEN	NDA!	ri(ON	s:		(If	di	ffere	nt fro	om	NASA)					
	[/]		[]	[]	[1	(AI] DELE	
* CIL RE		VT:	IOI	N I	RAI	'IONA	LE	: (If	appli	Lca	ΑI		ATE ATE]	
REMARKS: A SHORT IOA RECO FMEA.	ACI	ROS ENI	ss os	A RI	RI EMC	R TY VAL	PE OF	RESI THE	STOR 1	S	NOT A C	RED	TBLE	FAI	TIJIR	E.
ISSUE RE	SOI	LVI	ED RE	ON MC	I 1 DE	/20/ TO	88 BE	AT M	EETING	; W	ITH SUE	SYS	TEM M	lan?	AGER	<u>.</u>

ASSESSMEI ASSESSMEI NASA FME	TN	ID	:	ARC	S-21	100	8-1				NASA DAS BASELII N	NE			
SUBSYSTEMDAC ID:	M:			ARC 210 RES	0	OR,	2.21	K 1/2W	₹						
LEAD ANA	LYS	T:		D.	HART	rman	•								
ASSESSME	NT:														
			CAL JIGH	ITY		RE	DUNI	DANCY	SCREI	ENS	5		CIL		
		_		NC		A		В			С				
NASA IOA	[3	/3 /3]	!	[]	[]	[]		[]	*
COMPARE	[/]		[]	[]	[1		[]	
RECOMMEN	DAT	יוכ	ons:	((If (diff	ere	nt fr	om NA	SA))				
	[/	1		[]	C	3	[1	(AI	[DD/D		ETE)
* CIL RE				RAT]	[ONA	LE:	(If	appl	icabl	e) Il	ADEQUAT TAUEQUAT	E	[]	
NO DIFFE		CI	ES.												

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D. I:	ATE D:	1/2 ARC 05-	9/88 S-210: 6KA-20	1 096-:	1			A DATA SELINE NEW	[x]	
SUBSYST	EM:			ARC: 210	S 1		3K 1/4						
LEAD AN	ALYS	ST	:	D. 1	HARTM	AN							
ASSESSMI	ENT:	:											
	CRITICAI FLIGH HDW/FU					REDUI	NDANCY	sc	CREENS		CI		
	F				2	A	В		С		IT	EM	
NASA IOA]	3 3	/3 /3]	[]	[]	[]]]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	IDAT	CIC	ONS:	: ()	If dif	fere	ent fro	o m	NASA)				
	[/]	Ĺ]	[]	[]	(Al] DELI	ETE ;
* CIL RE	ETEN	T	ION	RATIO	NALE:	(If	appli	ica			_	_	
REMARKS:									INADEÇ	UATE UATE	[]	
A SHORT	ACR	ROS	SS A	A RLR REMOVA	TYPE AL OF	RESI THE	STOR]	:S	NOT A CRE FAILURE M	DIBLE ODE FI	FA] ROM	LUI THI	RE. IS

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	ID:	ARCS	9/88 5-2102 5KA-209	96-1			ŀ	IASA D BASEL		[
SUBSYSTE MDAC ID: ITEM:	M:		ARCS 210 RES		1.8	K 1/4	W						
LEAD ANA	LYS	ST:	D. 1	HARTMA	N								
ASSESSME	NT:	:											
		FLIG				DANCY			2		CIL		
	ŀ	IDW/F	UNC	A		E	•	•	_		_		
NASA IOA]	3 /3 3 /3]	[[]	[]	[]		[] *	r
COMPARE	[/]	[]	{]	[1		[]	
RECOMMEN	IDA!	rions	s: (If dif	fere	nt fr	om N	IASA)					
	[/]	. []	[]	ί]	(A	[DD/I] DELET	re)
* CIL RI		NTION	RATI	ONALE:	(If	appl	icak		ADEQUA ADEQUA		[]	
RHMARKS	7												

NO DIFFERENCES.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-2103 NASA FMEA #: 05-6KA-2096-									6-:	L					NASA BASE		[
SUBSYSTE MDAC ID:	M:				AF 21	cs														
LEAD ANA	LY	ST	:		D.	HA	RTI	IAN												
ASSESSME	NT	:																		
	CRITICALITY REDUNDAN											y s	CRE	ens	:		CI			
FLIGHT HDW/FUNC A B C NASA [3 /3] [] [] [] IOA [3 /3] [] [] []													IT	≤M						
NASA IOA	[3 3	/	/3 /3]		[[]		((]		[]		[]	4	t
COMPARE	[/	,]		.[]		[]		[]		[]		
RECOMMEN	DA'	PI	ON	īs:		(If	di	.ff	ere	nt	f	rom	NAS	A)						
	[/	,]		[]		[J		[]	(AI	[DD/I			'E)
* CIL RE	TEI	VT:	IC	N 1	RAT	ION	ALE	:	(If	a	pp]	lica	able		ADEQU. ADEQU.	ATE ATE	[]		
REMARKS: A SHORT IOA RECOIFMEA.	ACI MMI	ROS ENI	SS	A RI	RL EMO	R TY VAL	(PE OF	RI	ESI HE	ST "S	OR HOI	IS RT"	NOT FAI	' A	CRED RE MO	IBLE DE FF	FA] ROM	LUI TH	RE IS	•
ISSUE RES	SOI AII	LVI	ED RE	Ol MC	I 1	/20/ TO	/88 BE	A:	Г М EMO	EE VE	TIN D).	IG V	VITH	S	UBSYS	TEM M	IANA	(GE	R	

ASSESSMEI ASSESSMEI NASA FME	NT I	D:	ARCS-	2104			N	BASE		[]		
SUBSYSTEM MDAC ID:			ARCS 2104 RESIS	TOR,	2.21	K 1/21	v						
LEAD ANA	LYSI	r:	D. HA	RTMA	N								
ASSESSME	NT:												
·			ITY	Ŕ	EDUNI	DANCY	SCR	EENS			CIL		
	_	FLIGH OW/FU	NC	A		В		C	2				
NASA IOA	[:	3 /3]	[]	[]	[]		[] *]	
COMPARE	[/	1	£.]	[]	[]		[3	
RECOMMEN	DAT:	ions:	(If	dif	fere	nt fr	om N	ASA)					
	[/]	[] .	[]	[]	(A	[D D /[] ELET	E)
* CIL RE		TION	RATION	IALE:	(If	appl	icab	le) IN	ADEQU ADEQU	ATE ATE	[]	
REMARKS: NO DIFFE		CES.											

ASSESSMEI ASSESSMEI NASA FME	NT]	ID:	1/29/ ARCS- 05-6K	2105					NASA I BASEI		[x]	
SUBSYSTEM MDAC ID:	M:		ARCS 2105 RESIS	TOR,	1.21	K 2W								
LEAD ANA	LYSI	r:	D. HA	RTMA	N									
ASSESSME	T:													
(CICAL:		R	EDUNI	DANCY	SCRE	EENS			CI			
		FLIGHT W/FUI	-	A		E	3	•	С		IT	'EM		
NASA IOA	[3	3 /3]	[]	[[]	[]		[] *]	:
COMPARE	[/]	[]	[]	[]		[]	
RECOMMENI	DATI	ons:	(If	dif	feren	nt fr	om NA	SA)						
	[/]	[]	[]	[]	(AI	[DD/	DE!] LET	'E)
* CIL RET	TENT	ION F	RATION	ALE:	(If	appl	icabl	1	ADEQUA ADEQUA		[,]	
REMARKS:											•	•	•	

NO DIFFERENCES.

ASSESSMEN	SSESSMENT DATE: 1/29/88 SSESSMENT ID: ARCS-2106 ASA FMEA #: 05-6KA-2094-1 UBSYSTEM: ARCS												DATA LINE NEW	[x]	
SUBSYSTEM MDAC ID: ITEM:	4:		ARCS 2106 RESI	ST	DR,	1.	2K :	2 W									
LEAD ANA	LYST	:	D. H	AR'	ľM.	\N											
ASSESSME	T:																
(ICAL:					NDA			REENS					(L		
	HD	W/FU	1C		2	A		В	}		С						
NASA IOA	[3	/1R /2R]		[] []	P]		[F]	[[P P]		[X X]	*
COMPARE	[/N]		(]		[]	[1		[]	
RECOMMEN	DATI	ons:	(I	f	di	ffer	ent	fr	om l	NASA)						
	[/]		[]		[]	[]	(A			ETI]	ETE)
* CIL RE	TENT	'ION	RATIC	NA	LE	: (I	fa	ppl	ical		A NA	DEQI	UATE UATE	[]	
REMARKS:																	

IOA AGREES WITH NASA FMEA.

ASSESSMI ASSESSMI NASA FMI SUBSYSTI MDAC ID	ENT Ea ; Em:	I:	D:	AR	CS-210 -6KA-2 CS		1		1	nasa Base		[] (]	
ITEM:	•				SISTOR	2, 1.8	BK 1/	4 W						
LEAD AN	ALYS	ST	:	D.	HARTM	IAN								
ASSESSMI	ENT:	:												
	CR					REDUI	NDANC	y sci	REENS			CII	_	
FLIGHT HDW/FUNC A B C														
NASA IOA	[3 3	/3 /3]	[]	[]	[]]]	*
COMPARE	[/]	[]	[]	[]		[)	
RECOMME	'ADA	CIC	SNC	:	(If di	ffere	ent f	com N	IASA)					
	[/]	[]	ſ]	[]	(Àl	[DD/I		TE)
* CIL RI		T.	ION	RAT	IONALE	: (Ii	f appl	licab	Ā	DEQUA	ATE ATE	[]	
A SHORT IOA RECO FMEA.	ACF	ROS ENI	SS A	A RLI REMOV	R TYPE VAL OF	RESI THE	STOR "SHOP	IS N RT" F	OT A	CREDI	BLE E FI	FAI ROM	LUR	E.

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FMEA	T I	D:	ARCS:	-2108	97-1				ASA D BASEI		[
SUBSYSTEM MDAC ID: ITEM:	I:		ARCS 2108 RESI	STOR,	1.8	K 1/4	W						
LEAD ANAI	YST	:	D. H	ARTMA	N								
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LEAD ANALYST:	D. HARTMA	N						
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT :	ID:	1/29/ ARCS- 05-6	-2114				N	BASE		[
SUBSYSTE MDAC ID: ITEM:			ARCS 2114 RESI	STOR,	2.2	K 1/2	W					
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	ARCS 2122 RESISTOR,	1.8K 1/4V	٩			
LEAD ANALYST:	D. HARTMAN	4				
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NO DIFFERENCES.

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SUBSYSTEM MDAC ID: ITEM:	:			ARC 21: RE	28	OR	.,	1.2K	21	1									
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ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II):	ARCS		97 - 1			N	IASA BASE:		[
SUBSYSTE MDAC ID: ITEM:				ARCS 2130 RESI		1.8	K 1/4	W						
LEAD ANA	LYS	T:	:	D. H	ARTMA	N								
ASSESSME	NT:	:												
	CRI		ICAL LIGH		F	EDUN	DANCY	SCR	EENS			CIL		
	F	_		NC	A		E	3	C	2				
NASA IOA]	3 3	/3 /3] .	<u>[</u>]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	ID A T	ri	ons:	(1	f dif	fere	ent fr	om N	(ASA)					
	[/)	[]	[]	[]	(A	[DD/I	ELE'	TE)
* CIL RE	ETEI	NT:	ION	RATIO	NALE:	(If	appl	licab	1	ADEQU ADEQU]	
REMARKS:		NC:	ES.											

ASSESSMI ASSESSMI NASA FMI	OUT :	TD:	ARCS-	2131	97-1			ŀ	IASA DA BASEL	INE	-	x]	
SUBSYSTE MDAC ID:			ARCS 2131 RESIS	TOR,	2.2K	(1/2	w						
LEAD ANA	LYST	r:	D. HA	RTMA	M								
ASSESSME	ENT:												
		TICAL FLIGH	ITY T	SCR	REENS			CII					
		W/FU		A		В		c	:		TTI	im	
NASA IOA	[3	3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT1	ONS:	(If	dif	feren	t fr	om N	'ASA)					
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* CIL RE	TENI	ION I	RATION	ALE:	(If	appl	icab	•	DEOUL				
REMARKS:									DEQUAT DEQUAT]	
A SHORT IOA RECO FMEA.	ACRO MMEN	oss a ids ri	RLR T	YPE :	RESIS'	TOR :	IS N I" F	OT A AILUR	CREDIE E MODE	BLE E FF	FAI ROM	LUR THI	E. S

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	IL		ARC	9/88 5-2132 6KA-20					ASA I BASEI		[
SUBSYSTE MDAC ID: ITEM:				ARC 213 RES		2.2	К 1/2	W						
LEAD ANA	LYS	ST:	:	D.	HARTMA	M								
ASSESSME	NT:	:												
	CR				F	REDUN	DANCY	SCR	EENS			CIL	-	
	CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C													
NASA IOA	[3	/3 /3]	[]	[[]	[[]		[]	*
COMPARE	[/	3	ſ	1	[]	[]		[]	
RECOMMEN	IDA'	rI:	ons:	(If di	ffere	ent fi	com N	ASA)					
	(/	1	[]	[]	[]	(A	[DD/I] DELE	TE)
* CIL RI		NT	ION	RATI	ONALE	: (I1	f app	licab	4	ADEQU ADEQU]	
REMARKS	•													

NO DIFFERENCES.

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SUBSYST				ARC 213	S 3		8K 1/4							
LEAD AN	ALY	ST	':	D.	HARTM	AN								
ASSESSMI	ENT	:												
	CR	IT F	ICA:	LITY I T	1	REDUI	NDANCY	sci	REENS			CI:	_	
	,	HD	W/F	JNC	7	A	В		C	:		IT.	ĽМ	
NASA IOA	[3 3	/3 /3]	[]]]	[]		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDA!	ri	ons:	(3	f dif	fere	ent fr	om N	IASA)					
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REMARKS:									INA	DEQU	ATE ATE	Ī	-	
A SHORT IOA RECO FMEA.	ACI MMI	ROS	SS A	RLR EMOVA	TYPE L OF	RESI THE	STOR]	S N	OT A AILUR	CRED E MO	IBLE DE FI	FAI ROM	LUR THI	E. S
ISSUE RE (SHORT F	SOI AII	.VE	ED O	N 1/2 ODE T	0/88 O BE	AT M REMO	EETING VED).	WI	TH SU	BSYS'	TEM M	IANA	GER	

ASSESSMEN ASSESSMEN NASA FMEA	T I		ARCS	9/88 5-2134 5KA-209	8-1				asa i Basei	DATA: LINE NEW	(x]
SUBSYSTEM MDAC ID:	(:		ARCS 2134 RES		1.81	K 1/41	N					
LEAD ANA	LYST	:	D. 1	HARTMAN								
ASSESSME	T:											
(CIL											
		LIGH W/FU		A	В		C	2				
NASA IOA	[3	/3]	[]	[[]	[]		[] *
COMPARE	[/	1	ι	3	[]	[3		[]
RECOMMEN	DAT:	CONS	: (If dif	fere	nt fi	om 1	NASA)				
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* CIL RE		TION	RAT	IONALE:	(Ii	app:	lical		ADEQI ADEQI	UATE UATE	[]
REMARKS:		CES.										

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-213 05-6KA-2	35 2098-	1				ATA: INE [NEW [
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2135 RESISTOR							-	
LEAD ANALYST:	D. HARTM	AN							
ASSESSMENT:									
CRITICAI FLIGH	T	REDUI	NDANCY	SCF	REENS		CI		
HDW/FU		A	В			C	ITI	SM	
NASA [3 /3 IOA [3 /3] []	[]	[[]	[*
COMPARE [/] []	[]	ľ	J	ſ)	
RECOMMENDATIONS:	(If dif	ffere	nt fro	om N	ASA)				
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* CIL RETENTION I	RATIONALE:	(If	appli	.cab	le)				,
REMARKS:					INA	DEQUAT:	Εį]	
A SHORT ACROSS A IOA RECOMMENDS REFMEA.	RLR TYPE	RESIS THE	STOR I "SHORT	S NO	OT A (CREDIB E MODE	LE FAI: FROM '	LUR! PHI:	E. S
ISSUE RESOLVED ON (SHORT FAILURE MO	1/20/88 / DE TO BE 1	AT ME REMOV	EETING /ED).	WII	H SU	BSYSTE	MANAC	3ER	

ASSESSME ASSESSME NASA FME	NT	II):	ARCS	9/88 5-2136 5KA-209						LINE NEW	[k]	
SUBSYSTE MDAC ID: ITEM:				ARCS 2136 RES		2.2	K 1/2V	J						
LEAD ANA	LYS	ST	:	D. I	HARTMAN	1								
ASSESSME	NT:	:												
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	F			INC	A		В		C	!				
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* CIL RI	ETEI	NT	ION	RATI	ONALE:	(11	f appl	icab	Į.	DEQU	JATE JATE	[]	
REMARKS:		NC	ES.											

ASSESSME NASA FME	ENT ENT EA	DA II #:	ATE: D:	1/29 ARC: 05-0	9/88 S-213 6KA-20	7 096-1	ı		1	NASA Base		[
SUBSYSTE MDAC ID:	M			213	5 7		3K 1/4							
LEAD ANA	LYS	ST:	;	D. 1	HARTMA	AN								
ASSESSME	NT:	:												
	CRI	TT]	CAL	ITY	F	REDUN	NDANCY	SCI	REENS			CII		
	F			NC	I	\	В		(2		ITI	EM	
NASA IOA	[3 3	/3 /3]	[[]	[]	[]		[]	*
COMPARE	[/]]]	[]	[]		[]	
RECOMMEN	DAT	OI	NS:	(1	f dif	fere	ent fro	om N	IASA)					
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REMARKS: A SHORT IOA RECO FMEA.	ACR MME	ROS ND	S A S R	RLR EMOVA	TYPE L OF	RESI THE	STOR 1	S N	OT A	CREDI	BLE	FAI	LUR	Œ.

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NT	II):	1/2 ARC 05-	S-2	138						LINE NEW	[[x]	
SUBSYSTE MDAC ID: ITEM:				ARC 213 RES	8	OR,	1.8	K 1/41	N						
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ASSESSME	NT:	:													
	CR	_	ICAI LIGH	YTI		RI	EDUN	DANCY	SCR	EENS			CII		
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NASA IOA	[3	/3 /3]		[[]	[]	[]		[] *	
COMPARE	[/]		[]	[]	[1		[] .	
RECOMMEN	IDA'	TI	ons:	: (Ιf	dif	fere	ent fr	om N	(ASA					
	[/]		[3	[]	[]		[DD/I] DELETI	Ξ)
* CIL RI	ETE:	NT	ION	RATI	ONA	LE:	(If	appl	icab	ole) IN	ADEQI ADEQI	JATE JATE	[]	
REMARKS		NC	ES.												

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LEAD AN	ALY	ST	•	D.	HARTMA	N								
ASSESSMI	ENT	:												
	CR		ICAI LIGH		F	REDU	NDANCY	SCI	REENS			CI		
			W/FU		A		В		С			ITI	EM	
NASA IOA	[3	/3 /3]	[]	[]	[]		[]]	*
COMPARE	[/]	[]	[]	[]		[)	
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* CIL RE	ETE:	NT:	ION	RATIO	ONALE:	(If	appl	icak	•	DEOU	ATE	r	1	
REMARKS:											ATE]	
A SHORT IOA RECO FMEA.	AC:	ROS ENI	SS A DS R	RLR EMOVA	TYPE AL OF	RESI THE	STOR :	IS N	OT A (CRED E MO	IBLE DE FI	FAI ROM	LUI THI	RE. IS
ISSUE RE	SO:	LVI LUI	ED O	N 1/2	20/88 TO BE	AT M REMO	EETING	: WI	TH SU	BSYS	TEM N	IANA	\GEF	2

ASSESSME ASSESSME NASA FME	NT	II):	ARCS	9/88 5-2140 5KA-209	96-1			N		DATA LINE NEW		
SUBSYSTE MDAC ID: ITEM:	M:			ARCS 2140 RES		2.2	K 1/2	W					
LEAD ANA	LYS	ST	:	D. I	HARTMAI	V							
ASSESSME	NT:	:											
	CR]			.ITY	R	EDUN	DANCY	SCR	EENS			CII	
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COMPARE	[/	1	(]	[]	[1		[]
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REMARKS:	;												

NO DIFFERENCES.

ASSESSMENT DATE: 1/29/88

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2141 05-6KA-211	.0-1	1	NASA DATA BASELINE NEW										
DODOTOTEM.	ARCS 2141 RESISTOR,													
LEAD ANALYST:	D. HARTMAN	ī												
ASSESSMENT:														
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C														
FLIGHT HDW/FUNC A B C														
NASA [3 /3 IOA [3 /3) [] [] []	[] *									
COMPARE [/] [] [] []	[]									
RECOMMENDATIONS:	(If diff	erent fro	om NASA)											
[/] [] [] [[] DD/DELETE)									
* CIL RETENTION	RATIONALE:	(If appl:	À	DEQUATE	[]									
REMARKS: A SHORT ACROSS A	RLR TYPE RI	ESISTOR 1	S NOT A	DEQUATE CREDIBLE	[]									
IOA RECOMMENDS RIFMEA.	≤MOVAL OF TI	HE "SHORT	" FAILUR	E MODE FR	OM THIS									
ISSUE RESOLVED OF (SHORT FAILURE MC	N 1/20/88 AT DDE TO BE RE	r MEETING EMOVED).	WITH SU	BSYSTEM M	ANAGER									

ASSESSMEN ASSESSMEN NASA FMEA	T I	ATE:	ARC	9/88 5-2142 6KA-211	0-1			N	ASA D BASEL]
SUBSYSTEM MDAC ID:	1:		ARC 214 RES		1.8	K 1/4W	I					
LEAD ANAI	LYST	:	D.	HARTMAN	Ī							
ASSESSME	T:											
(ICAL		RI	EDUN	DANCY	SCR	EENS			CIL	
		LIGH W/FU		A		В		(С			
NASA IOA	[3	/3]]]	[]	[]]		[] *]
COMPARE	[/]	[.]	[1	[]		[]
RECOMMEN	DAT]	ONS	:	(If dif	fere	nt fr	om N	IASA)				
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* CIL RE		TION	RAT:	IONALE:	(Ii	f appl	icak		ADEQU IADEQU]
NO DIFFE		CES.										

ASSESSM ASSESSM NASA FM	ENT ENT]] ! !	DATE:	1/ AR 05	29/88 CS-214 -6KA-2	3 110-	1		1		DATA ELINE NEW] 3	x]	
SUBSYST MDAC ID ITEM:	EM:			AR 21 RE		., 2.	2K 1/2	W						
LEAD AN	ALY	ST	':	D.	HARTM	AN								
ASSESSM	ENT	:												
		F.	LIGH	T	:		NDANCY	sc	REENS			CI		
		HD	W/FU	NC	į	A	В		c	;		1.1	'EM	
NASA IOA]	3	/3 /3]	[]	[]]]		[]	*
COMPARE	[/]	[J	ľ]	[]		[J	
RECOMMEN	IDA'	ric	ONS:	(If di	fere	ent fro	om 1	NASA)					
	[/]	[]	ί]	[J	(AI	[DD/1] DELE	TE)
* CIL RE	TEN	ITI	ON I	RATI	ONALE:	(If	appli	.cal						•
REMARKS:	_								INA	DEQU	ATE ATE	Ī		
A SHORT IOA RECO FMEA.	ACR MME	ROS ND	S A S RE	RLR MOV	TYPE AL OF	RESI THE	STOR I "SHORT	S N	OT A (CRED E MO	IBLE DE FR	FAI OM	LURI	E.
ISSUE RE	SOL AIL	VE UR	D ON E MO	1/: DE :	20/88 FO BE	AT M	EETING VED).	WI	TH SUE	BSYS'	тем м	ANA	.GER	

ASSESSME ASSESSME NASA FME	NT :	ID:	ARCS-	2144	10-1			ì	NASA DA BASELI N	NE			
SUBSYSTE MDAC ID: ITEM:			ARCS 2144 RESIS	TOR,	2.2K	1/2	W						
LEAD ANA	LYS!	r:	D. HA	RTMAI	N								
ASSESSME	NT:												
		TICAL		R	EDUND	ANCY	SCRE	ENS			CIL		
		FLIGH DW/FU	=	A		В		(С			••	
NASA IOA	[3 /3 3 /3]	[]]]	[]		[]	*
COMPARE	.[/]	[]	[]	[1		[]	
RECOMMEN	IDAT	ions:	(If	dif	feren	nt fr	om NA	SA)					
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* CIL RI	ETEN	TION	RATION	IALE:	(If	appl	icabl		ADEQUAT ADEQUAT		[]	
REMARKS	:												

NO DIFFERENCES.

ASSESSMENT I ASSESSMENT I NASA FMEA #	DATE: ID:	1/29/ ARCS- 05-6K	88 2145 A-21	10-1			N	ASA DAT BASELIN NE]			
SUBSYSTEM: MDAC ID: ITEM:													
LEAD ANALYST	r:	D. HA	RTMA	N									
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
NASA [3 IOA [3	3 /3]	[]	[[]	[]	[] *]			
COMPARE [/]	£]	[1	[]	[]			
RECOMMENDATI	ONS:	(If	dif	feren	t fr	om NAS	SA)						
[/]	[]	[]	[[ADD/D] ELETE)			
* CIL RETENT	'ION I	RATION	LE:	(If a	appl	icable	•	DEOUVE	•				
REMARKS:								DEQUATE DEQUATE]			
A SHORT ACRO IOA RECOMMEN FMEA.	SS A DS RE	RLR TY	PE F	RESIST	FOR	IS NOT	LUR	CREDIBLE E MODE E	FROM	LURE. THIS			

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	NТ	ID:		ARC	9/88 S-2146 6KA-21	10-1					DATA: LINE NEW	[
SUBSYSTE MDAC ID:				ARC 214 RES		1.8	K 1/4	W						
LEAD ANA	LYS	T:		D.	HARTMAI	N.								
ASSESSME	NT:													
		TIC			R	EDUN	DANCY	SCR	EENS			CIL		
		_		NC	A		В	3	C	?				
NASA IOA	[3 / 3 /	'3 '3]	[]]	[]	[]		[]	*
COMPARE	[/	,]	[]	[]	[]		[]	
RECOMMEN	ľADI	OI	1S:	((If dif	fere	ent fr	om N	(ASA)					
	[/	/]	[]	[]	[]	(À	[DD/I) DELF	ETE)
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REMARKS:		NCE:	s.											

ASSESSMI ASSESSMI NASA FMI		1/29/ ARCS- 05-6K	2147				1	NASA D BASEL		[) x]	
SUBSYSTI MDAC ID ITEM:		ARCS 2147 RESIS	TOR,	2.2	K 1/2	W						
LEAD AND	ALYST:	D. HA	RTMA	N								
ASSESSMI	ENT:											
	CRITICAL FLIGH		R	EDUN	DANCY	SCRI	EENS			CII		
	2		ITE	ĽΜ								
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A SHORT	ACROSS A	RLR TY	OF	RESIS THE '	STOR I	S NC	T A	CREDIE E MODE	BLE E FF	FAI ROM	LUR THI	E.

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMEN ASSESSMEN NASA FME	NT ID	TE:	ARCS	/88 -2148 KA-213	10-1				ASA D BASEL]
SUBSYSTEM MDAC ID:	M:		ARCS 2148 RESI		2.21	K 1/21	W					
LEAD ANA	LYST:		D. H	ARTMAI	N							
ASSESSME	NT:											
	CRIT			R	EDUN	DANCY	SCR	EENS			CIL ITE	
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NASA IOA	[3 [3	/3 /3]	[]]]	[]		[] *
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REMARKS NO DIFF	: ERENC	CES.										

ASSESSM NASA FM	ENT	']	D:	ARC	29/88 CS-214: -6KA-2:	9 109-	-1			NASA BASE	LIN	E [,] x]	
SUBSYST MDAC ID ITEM:	EM:			ARC 214 RES		, 5.	1K 1/	'4W				•	,	
LEAD AND	ALY	ST	':	D.	HARTM	AN								
ASSESSM	ENT	:												
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NO DIFFE	REN	CE	s.											

NASA DATA:

ASSESSMEN ASSESSMEN NASA FMEA						09-1				ASA I BASEI		[
SUBSYSTEM MDAC ID: ITEM:	:			ARCS 2150	3									
LEAD ANAL	YS	T:	:	D. F	IARTMA	N								
ASSESSMEN	T:	1												
c	RI		ICAL LIGH		R	EDUN	DANCY	SCR	EENS			CIL		
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COMPARE	[/]	[]	[]	[]		[]	
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REMARKS: A SHORT A IOA RECOL FMEA.	ACI MMI	RO EN	SS A DS F	RLR EMOV	TYPE AL OF	RES! THE	ISTOR "SHOR	IS N	OT A	CRED RE MO	IBLE DE F	FAI ROM	LUR THI	E. S
ISSUE RES	SO: AI	LV	ED C	N 1/ IODE	20/88 TO BE	AT I	MEETIN OVED).	g Wi	TH S	UBSYS	TEM	MANA	\GER	

ASSESSM ASSESSM NASA FM	ŒNT	' I	D:		RCS-:	21	51									DATA LINE NEW	[
SUBSYST MDAC II ITEM:				AF 21 RJ	.51	В	L1,	/L5,	/R1	MA	NIF	POL.	D I	DR:	IVER	swi	тсн	•	
LEAD AN	IALY	ST	:																
ASSESSM	ENT	:																	
		F	ICAL LIGH W/FU	T			RI A		NDAN	CY B		RE	ENS	s C			CI IT	L EM	
NASA IOA	[3	/ /2R]]	P]	[P]		[P]		[]	*
COMPARE	(N	/N]		[N]	[N]		[N]		[]	
RECOMME	NDA'	TI	ons:		(If	đ:	ifi	fere	ent :	fr	om	NAS	SA)	ı					
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ASSESSMEN ASSESSMEN NASA FMEA	T T	[D		ARCS-	2152						DATA: LINE NEW	_]	 		
SUBSYSTEM MDAC ID:	1 :			ARCS 2152 RJDA1	.B L1	/L5/F	R1 MA	NIFO	LD DR	IVER	SWIT	СН				
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SUBSYST MDAC ID ITEM: CONTACT): 'S 1	,			ARCS 2153 RJDA1	В	L1	/L5	/R1	MA	NIF	OLD	DR	IVEF	ON	SWI	тсн	
LEAD AN	ALY	ST	:															
ASSESSM	ENT	:																
		F	LIG	HT	ľY		R	EDUI	NDAN	CY	SCI	REEN	s			CI	L EM	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2154		A DATA: SELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	ARCS 2154 RJDA1B L1/L5/R1	MANIFOLD DRIV	ER ON SWITCH
LEAD ANALYST:			
ASSESSMENT:			
CRITICAL		NCY SCREENS	CIL ITEM
FLIGH HDW/FU		в с	
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* CIL RETENTION	RATIONALE: (If	n.	EQUATE [] EQUATE []
REMARKS: RJDA1B L1/L5/R1 ASSESSMENT IDS	MANIFOLD DRIVER ARCS 12261X-1226	SWITCH 4 RE-A 5X.	NALYZED BY IOA. SEE

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ITEM: CONTACTS		3,	4	21 RJ	.55 DA1B]	L1/L5	/R1 M	ANIF	OLD D	RIVE	OFF	sı	VITCH	
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ASSESSME ASSESSME NASA FME	ENT	II			5-2156					ASA D BASEL]	
SUBSYSTEMDAC ID: ITEM: CONTACTS	:	, 4	1	ARCS 2150 RJD		/ L 5/:	R1 MA	NIFO	LD DR	IVER	OFF	swi	тсн	
LEAD AND	ALY	ST	:											
ASSESSMI	ENT	:												
	CR			LITY	R	EDUN	DANCY	SCR	EENS			CIL		
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REMARKS RJDA1B ASSESSM	L1/	L5	/R1 Ds	MANI ARCS	FOLD D	RIVE	R SWI	TCH	4 RE	-ANAL	ZED	BY	IOA.	SEE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2157		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	ARCS 2157 RJDA1B L1,	/L5/R1 MANIFOLI	DRIVER ON S	SWITCH
LEAD ANALYST:				
ASSESSMENT:				
CRITICAL) FLIGHT		EDUNDANCY SCREE	ens	CIL
HDW/FUN		В	С	ITEM
NASA [/ IOA [3 /2R] [] [P] []]]	[] [P]	[] *
COMPARE [N /N] [N] [N]	[N]	[]
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* CIL RETENTION R	ATIONALE:	(If applicable	ADEQUATE	[]
REMARKS: RJDA1B L1/L5/R1 M ASSESSMENT IDS AR	ANIFOLD DR	RIVER SWITCH 4 12265X.	RE-ANALYZED	BY IOA. SEE

ASSESSMEN ASSESSMEN NASA FME	IT :	ID		ARCS	-2158				1	NASA D BASEL]	
SUBSYSTEM MDAC ID: ITEM: CONTACTS		6	;	ARCS 2158 RJDA	1B L1/	L5/R	R1 MA	NIFO:	LD D	RIVER	on s	WIT	СН	
LEAD ANA	LYS	T:												
ASSESSME	NT:	;												
	CRI			YTI	RI	EDUNI	DANCY	SCR	EENS			CIL		
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MDAC II	D:	8	2159	9	1/L5,	/R1 M	ANIF	OLD D	RIVEI	R OFF	' sv	WITCH	
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ASSESSI	MENT:												
				I	REDUN	IDANC'	Y SCI	REENS			CI	L	
	SUBSYSTEM: ARCS IDAC ID: 2159 STEM: RJDA1B L1/L5/R1 MANIFOLD DRIVER OFF SWITCH SONTACTS 7, 8 LEAD ANALYST: SSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * IOA [3 /3] [] [] [] [] * CMPARE [N /N] [] [] [] [] ECOMMENDATIONS: (If different from NASA)												
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-21	A DATA: SELINE NEW]						
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 7, 8	ARCS 2160 RJDA1B	L1/I	L5/R1	MAN	IFOLD	DRIV	ER OFF	SWIT	СН	
LEAD ANALYST:										
ASSESSMENT:								CIL		
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	CR		'ICA 'LIG		ľY		R	EDUI	NDAN	CY	sc	CRE	EN:	S			C:	ΙL	
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	CRI		CAL				RI	EDUN	DANG	CY	SCI	REE	NS	;			CIL		
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SUBSYSTE MDAC ID: ITEM: CONTACTS			ARCS 2163 RJDA1	B L1	/L5/R	1 MA	NIFOL	D DR	IVER	OFF	SW	ITCH	
LEAD ANA	LYSI	?:											
ASSESSME	NT:												
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ASSESSME NASA FME):	ARCS	-2164						NEW			
SUBSYSTE MDAC ID: ITEM: CONTACTS	}	l,	12	ARCS 2164 RJDA	1B L1	/L5/ 1	R1 MA	NIFO	LD DF	RIVER	OFF	SWI	тсн	
LEAD ANA	YLYS	ST	:											
ASSESSMI	ENT	:												
	CR		ICA LIGI	LITY	R	EDUN	DANCY	SCR	EENS			CIL		
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NASA IOA	[3	/ /3]	[]] []	[]		[] *]	
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REMARKS RJDA1B ASSESSM	L1/	L5	/R1 Ds	MANII ARCS :	FOLD 1	DRIVE X-122	R SW	ITCH	4 RE	-ANAL	YZED	вч	IOA.	SEE

SUBSYSTEM: ARCS MDAC ID: 2165 ITEM: RJDA1B L1/L5/R1 MANIFOLD DRIVER ON SWITCH CONTACTS 13, 14 LEAD ANALYST: ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HDW/FUNC A B C NASA [/] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS: REMARKS:	NASA DATA: BASELINE [] NEW []	BASELI			5	.65	RCS-21		D:	I	SMENT	ASSESS ASSESS NASA F
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM HDW/FUNC A B C NASA [/] [] [] [] [] * ITEM ITEM ITEM ITEM ITEM ITEM ITEM ITEM	IFOLD DRIVER ON SWITCH	NIFOLD DRIVER O	MAI	5/R1	L/L	L1	165	2 R			D:	MDAC I
CRITICALITY REDUNDANCY SCREENS CIL ITEM HDW/FUNC A B C NASA [/] [] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [] [] * RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) REMARKS:									:	ST	NALY	LEAD A
FLIGHT HDW/FUNC A B C NASA [/] [] [] [] [] * IOA [3 /2R] [P] [P] [P] [] * COMPARE [N /N] [N] [N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] [] [] [] * CIL RETENTION RATIONALE: (If applicable) REMARKS:										:	MENT	ASSESS
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RJDA1B L1/L5/R1 MANIFOLD DRIVER SWITCH 4 RE-ANALYZED BY IOA. STASSESSMENT IDS ARCS 12261X-12265X.	• ,		VIT	ER SV 265X.	RIV -12	Di LX-	NIFOLD 1226	L MAI ARCS	/R1 Ds	15, II	L1/1	RJDA1B

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2166					SA DAT BASELIN NE]		
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 13, 14	ARCS 2166 RJDA1B L1	/L5/R1	L MAN	IFOLI	DRI	(VER O	N SWITC	CH		
LEAD ANALYST:										
ASSESSMENT:							CIL			
CRITICAL	LITY R	EDUND	ANCY	SCRE	ENS		ITE	M		
FLIGH HDW/FU		L	В		С					
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REMARKS: RJDA1B L1/L5/R1 ASSESSMENT IDS	MANIFOLD ARCS 12261	DRIVE	R SW:	TCH	4 RE	-ANALY	ZED BY	IOA.	SEE	

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RJDA1B L1 ASSESSMEN	I/L	5/ ID	R1 N S AF	IAN: RCS	IFOL 122	D D 61X	RIVER	SWIT	CH 4	4 RE-	ANALY2	ED	ву	IOA.	SEE

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SUBSYSTE MDAC ID: ITEM: CONTACTS				ARCS 2168 RJDA11	3 L1/	/L5/R:	ı ma	NIFOLI	DRI	IVER OFF	' SWI	TCH	
LEAD ANA	LYS	T:	:										
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SUBSYSTI MDAC ID: ITEM:				ARCS 2169 RJDA	ı	L1,	/L5/	/R1	MA	NIF	OLD	LO	GIC	SWI	TCH		
LEAD AND	ALY	ST	:														
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NASA IOA	[3	/ /2R]	[P]	[P]	ĺ	P]		[]	*
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REMARKS:											I			JATE		j	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2170					SA DATA ASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2170 RJDA1B L1/	/L5/R	1 MA	NIFOL	D LOG	C SWIT	СН		
LEAD ANALYST:									
ASSESSMENT:									
CRITICAL		EDUND	ANCY	SCRE	ENS		CI		
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* CIL RETENTION	RATIONALE:	(If	appl	icabl	A)	DEQUATE DEQUATE]	
REMARKS: RJDA1B L1/L5/R1 ASSESSMENT IDs A	MANIFOLD L ARCS 12256X	OGIC -1226	SWII	CH 3	RE-A	NALYZED	BY	IOA	. SEE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2171	NASA DA BASELI 1	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	ARCS 2171 RJDA1B L1/L5/F	R1 MANIFOLD LOGIC ON	N SWITCH
LEAD ANALYST:			
ASSESSMENT:			
CRITICAL FLIGH HDW/FU	T	DANCY SCREENS B C	CIL ITEM
NASA [/ IOA [3 /2R] []] [P]	[] [] [P] [P]	[] *
COMPARE [N /N] []]	[и] [и]	[]
RECOMMENDATIONS:	(If differen	it from NASA)	
[/] []		[] (ADD/DELETE)
* CIL RETENTION I	RATIONALE: (If	applicable) ADEQUAT INADEQUAT	
	MANIFOLD LOGIC RCS 12256X-1226	SWITCH 3 RE-ANALYZE	D BY IOA. SEE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2172					SA DATA: ASELINE NEW	٢]	
MDAC ID:	ARCS 2172 RJDA1B L1,	/L5/R1	MAN	IFOLE) LOG	CON S	WIT	СН	
LEAD ANALYST:									
ASSESSMENT:									
	ITY R	EDUNDAI	NCY	SCRE	ens		CI IT		
FLIGH HDW/FU	INC A		В		С				
NASA [/ IOA [3 /2F] [e] [P]	[[P].	[[P]	[] *]	
COMPARE [N /N] [N]	(N]	[N	1	[]	
RECOMMENDATIONS:	(If dif	ferent	fro	m NAS	SA)				
[/] []	[]	[] (A] DELET	E)
* CIL RETENTION	RATIONALE:	(If a	ppl	icabl	e) Al INAI	DEQUATE DEQUATE	[]	
REMARKS: RJDA1B L1/L5/R1 ASSESSMENT IDS	MANIFOLD L ARCS 12256X	OGIC S	WITO X.	CH 3					SEE

ASSESSMI NASA FMI	ENT	ľ			S-217	3					DATA LINE NEW	[
SUBSYSTI MDAC ID: ITEM: CONTACTS	: 3	,		ARCS 2171 RJDA	-	1/L5/	R1 M	ANIFO	DLD L	ogic	OFF :	SW:	ГТСН	
LEAD ANA	ALY	ST	:											
ASSESSMI	ENT	:												
CRITICALITY REDUNDA FLIGHT								Y SCR	REENS			CI		
	:			UNC	1	A	1	В	(C		IJ	PEM	
NASA IOA	[3	/ /3]	[] .	[]] []		[] *	t
COMPARE	[N	/N]	[]	[3	[]		[]	
RECOMMEN	IDA!	ri(ONS	: (1	f di	fere	nt fi	om N	ASA)					
	[/]	[]	[]	[)	(AI	[/Q] DELET	E)
* CIL RE		N T]	CON	RATIO	NALE:	(If	appl	icab.	7	ADEQUA	ATE ATE	[]	
RJDA1B L ASSESSME	1/1	L5/ II	/R1 Os /	MANIF ARCS 1	OLD I	OGIC -122	SWIT	CH 3	RE-A	NALY	ZED E	ЗY	IOA.	SEE

ASSESSME ASSESSME NASA FME	TN	II		ARC	:s-2174					NASA D BASEI		[]	
SUBSYSTEMDAC ID:	•	, 4		ARC 217 RJI		/L5/R	R1 MA	NIFO	LD L	ogic (FF	swi	тсн	
LEAD AN	ALY.	ST	:											
ASSESSMI	ENT	:												
			YTI	RI	DANCY	SCR	EENS			CI	L EM			
			LIGH W/FU	IT INC	A	,	E	3		С			1111	
NASA IOA	[3	/]	[[]	[]	[[]		[] *	
COMPARE	[N	/N	1	[]	[]	[]		[3	
RECOMME	NDA	TI	ONS:	:	(If dif	fere	nt fi	com 1	NASA)					
	[/]		3	[]	[]	(Z) DELET	E)
* CIL R	ETE	ENT	ION	RAT	ionale:	(If	app:	lical		ADEQU.		_]	
REMARKS RJDA1B ASSESSM	L1/	/L5	/R1 Ds /	MAN ARCS	IFOLD I 12256X	OGIC -122	SWI	rch :	3 RE-	-ANALY	ZED	вч	IOA.	SEE

ASSESSME ASSESSME NASA FME	INT I	ID:		5-21	75							'ASA BAS	ELI	ra: ve [ew [
SUBSYSTE MDAC ID: ITEM: CONTACTS		6	ARCS 2175 RJD	5	Ľ1,	/L5,	/R1 :	MA	NIF	OLD	LO	GIC	ON	swi	тсн	
LEAD ANA	LYSI	r:														
ASSESSME	NT:															
	F	CICAL FLIGH			RI A	EDUN	NDAN(CY B	sci	REEN	s c			-	IL TEM	
WAGA		·		_		_	_	_			_					
NASA IOA	[3	/ /2R]	[P]	[P]]	P]		[]	*
COMPARE	[N	/N]	[N]	[N]	ĺ	N]		[]	
RECOMMEN	DATI	ons:	(I	f di	ff	ere	ent i	fro	om 1	NASA)					
	.	/]	[]	[]	[]	(] /DELE	TE)
* CIL RE	PENT	ION 1	RATIO	NALE	:	(If	app	oli	cak	-		DEQU DEQU]	
RJDA1B L: ASSESSMEI	1/L5 NT T	/R1 N	MANIF	OLD	LO	GIC	SWI	TC	H 3	RE	-AN	IALY	ZED	ву	IOA.	SEE

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARCS-2176	NASA DA BASELI 1	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	ARCS 2176 RJDA1B L1/L5/I	R1 MANIFOLD LOGIC O	N SWITCH
LEAD ANALYST:			
ASSESSMENT:			
CRITICA FLIC		DANCY SCREENS	CIL ITEM
HDW/1	FUNC A	ВС	
NASA [/ IOA [3 /2	2R] []	[] [] [P] [P]	[] *
COMPARE [N /	и] [и]	[и] [и]	[]
RECOMMENDATIONS	S: (If differe	nt from NASA)	
[/] []	[] []	[] (ADD/DELETE)
* CIL RETENTION	N RATIONALE: (If	applicable) ADEQUA INADEQUA	
REMARKS: RJDA1B L1/L5/R ASSESSMENT IDS	1 MANIFOLD LOGIC ARCS 12256X-122	SWITCH 3 RE-ANALYZ	ED BY IOA. SEE

ASSESSME ASSESSME NASA FME	ENT	I			5-217	7					DATA: LINE NEW	[]	
SUBSYSTE MDAC ID: ITEM: CONTACTS			8	ARC: 217 RJD	7	1/L5/	/R1 MA	NIF	OLD L	OGIC	OFF S	:W]	[TCH	
LEAD ANA	LY	ST	:											
ASSESSME	NT	:												
CRITICALITY REDUND								SCI	REENS			CI	L EM	
	1			UNC	1	A	В		(C		11	EM	
NASA IOA]	3	/ /3]	נ נ]	[]	[]]] *]	•
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DAT	rio	ONS	: (1	f dif	fere	nt fr	om N	IASA)					
	[/]	[]	[]	[]	(AD)	[D/] DELET	E)
* CIL RE	TEN	T]	CON	RATIO	NALE:	(If	appl	icab	7	DEQUA		[]	
REMARKS: RJDA1B L ASSESSME	1/I NT	ر5ر II	/R1 Os /	MANIF ARCS 1	OLD I	OGIC -122	SWIT	СН 3	RE-A	NALYZ	ZED BY	Z :	IOA.	SEE

ASSESSMEI ASSESSMEI NASA FME	TN	ID	re:	ARCS	-2178					ASA DA BASELI N]		
SUBSYSTEMDAC ID: ITEM: CONTACTS		8		ARCS 2178 RJDA		'L5/R	1 MAI	GIC O	FF SW	ITCI	H			
LEAD ANA	LEAD ANALYST:													
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS FLIGHT FLIGHT B C													
	1		JIGH V/FU		A		В	}	C	2				
NASA IOA	-	3	/]	[]	[]	[[]]) (] *	
COMPARE	[N	/N]	[]	[]	[]	•]	
RECOMME	NDA	TI	ONS	: (If dif	fere	nt fi	com N	(ASA					
			/		[]	[] .	[]	(AD	[D/D]] ELETI	E)
* CIL R	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []													
REMARKS RJDA1B ASSESSN	L1, MEN'	/LS	/R1 [Ds	MANI ARCS	[FOLD]	LOGIC X-122	SWI	TCH :	3 RE-	ANALY	ZED B	Y I	OA.	SEE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-217	79		NASA DAT. BASELINI NEV	A: E [] V []
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2179 RJDA1A L	2/R2 MA	NIFOLD I	ORIVER SWITCH	
LEAD ANALYST:					-
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL
HDW/FU		A	В	С	ITEM
NASA [/ IOA [3 /2R] [1]	[] [P]	[] [P]	[] *
COMPARE [N /N				[N]	[]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)	
[/	-) ([]	[] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If ap	plicable	1)	,
REMARKS:				ADEQUATE INADEQUATE	[]
RJDA1A L2/R2 MANII ASSESSMENT IDS ARC	FOLD DRIVI CS 12271X-	ER SWIT -12275X	CH 4 RE-	ANALYZED BY	IOA. SEE

ASSESSME ASSESSME NASA FME	ENT	II		ARCS-2	2180				,	NASA DATA: BASELINE NEW	[]		
SUBSYSTE MDAC ID:				ARCS 2180 RJDA1	A L2,	/R2 M	ANIF	OLD D	RIV	ER SWITCH				
LEAD ANA	LY	ST	:											
ASSESSME	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
	CR			ITY	R	EDUND.	ANCY	SCRE	ENS		CIL	r		
	1	_	LIGH W/FU	NC	A		В			С	1111	1		
NASA IOA	[2	//2]	[]	[.]	[]	[x] *		
COMPARE	[N	/N	1	ĺ]	[]	ſ]	[N]		
RECOMMEN	NDA	TI	ons:	(If	dif	feren	t fr	om NA	SA)					
	[/]	[]	[]	[] (A	[DD/DI] ELET	E)	
* CIL RI		NT	ION	RATION	ALE:	(If	appl	icabl		ADEQUATE ADEQUATE]		
REMARKS RJDA1A ASSESSMI	L2/	R2 I	MAN Ds A	IFOLD RCS 12	DRIV 271X	ER SW -1227	ITCH	4 RE	-AN	ALYZED BY	IOA	. s	EE	

ASSESSME	ASSESSMENT DATE: ASSESSMENT ID: ARCS-2181 NASA FMEA #: SUBSYSTEM: ARCS												DATA LINE NEW]	
SUBSYSTE MDAC ID: ITEM: 1, 2			ARCS 2181 RJDA1	A :	L2,	/R2	MAN	ΙF	OLD	DRI	VE I	R ON	SWI	тсн	CO	NTACTS
LEAD ANA	LYST	':														
ASSESSME	NT:															
CRITICALITY REDUNDA FLIGHT HDW/FUNC A								CY B	SC	REEN	s C			CII		
NASA IOA	[[3	/ /2R]	[P]	[P]	[P]		[]	*
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMMEN	DATI	ons:	(If	đ:	ifi	fere	ent :	fro	om 1	NASA)					
	[/]	[]	[]	[]	(A)	[DD/E	•	ETE)
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RJDA1A L	Z/KZ NT I	MANI Ds Ai	RCS 122	271	LVE LX-	K S -122	WITO 75X	CH.	4 F	RE-AI	IAI	LYZE	D BY	IOA	•	SEE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2182		NASA DATA BASELINE NEW	[]										
SUBSYSTEM: MDAC ID: ITEM: 1, 2	ARCS 2182 RJDA1A L2/1	R2 MANIFOLD	DRIVER ON SWI	TCH CONTACTS										
LEAD ANALYST:														
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS FLIGHT CIL ITEM														
FLIG HDW/F		В	С	<u>-</u>										
NASA [/ IOA [3 /2	R] [P] []]	[] [P]	[] *										
COMPARE [N /	и] [и] [N]	[N]	[]										
RECOMMENDATION	G: (If dif	ferent from	NASA)	_										
[/] [] []	[] ([] ADD/DELETE)										
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REMARKS: RJDA1A L2/R2 M ASSESSMENT IDS	REMARKS: RJDA1A L2/R2 MANIFOLD DRIVER SWITCH 4 RE-ANALYZED BY IOA. SEE ASSESSMENT IDS ARCS 12271X-12275X.													

ASSESSM ASSESSM NASA FM	EN' EA	r #	ID:		CS-21	83					DATA: LINE NEW	[]	
SUBSYST MDAC ID ITEM: 3, 4	EM:	•		AR 21 RJ	_	L2/R2	MANI	FOLD	DRIV	ER OF	F SWI	тсн	CON	FACT S
LEAD AND	ALY	s)	r:											
ASSESSMI	ENT	' :												
		'ICAI 'LIGI	LITY		Y SCI	REENS			CIL					
		HD	W/Ft	INC		A	1	В	•	С		ITEM	[
NASA IOA	[3	/3]	[]] []]]		[] *	
COMPARE	[N	/N]	[]	[]	[]	i	[]	
RECOMMEN	DAT	ri(ONS:	(If di	ffere	nt fr	om N	'ASA I					
	[/		[]	[J		/DFi] LETE)	
* CIL RET	ren	T)	ON 1	RATI	ONALE:	(If	appl	icab	le)		(110)	/ DEI	JE TE ,	,
REMARKS:									A INA	DEQUA DEQUA	TE []	<u> </u>	
RJDA1A L2 ASSESSMEN	Z/R VT	2 ID	MAN] S AI	FOLI RCS 1	D DRIV L2271X	ER SV -1227	WITCH	4 RI	E-ANA	LYZED	BY I	OA.	SEE	:

ASSESSME ASSESSME NASA FME	NT	II		ARCS-2	184					SA DA ASELI N	NE	[]	
SUBSYSTE MDAC ID: ITEM: 3, 4				ARCS 2184 RJDA1	A L2/	'R2 M	IANIF	OLD	DRIVER	OFF	SWI	тсн	CO	NTACTS
LEAD ANA	LYS	ST:	:											
ASSESSME	ENT	:												
	CR			ITY	REENS			CIL	1					
	1		LIGH N/FU		A		E	3	· C				_	
NASA IOA	[3	/3]	[]	[]	[]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMME	NDA'	TI	ons:	(If	dif:	fere	nt fr	com	NASA)					
	[/]	[]	C]	[]	(AI	[D/D] ELE	TE)
* CIL R		NT	ION	RATION	ALE:	(If	app]	lica	AD	EQUAT		[]	
REMARKS RJDA1A ASSESSM	L2/	R2	MAN Ds <i>l</i>	VIFOLD ARCS 12	DRIV 271X	ER S'	WITCE	H 4	RE-ANAI	YZED	вч	IOA	•	SEE

ASSESSMI ASSESSMI NASA FMI								DATA LINE NEW	-									
SUBSYSTE MDAC ID: ITEM: 5, 6				2	RCS 185 JDA1	A	L2 ,	/R2	MAN	IF	OLD	DRI	VE:	R ON	swi	тсн	co	NTACTS
LEAD ANA	LY	ST	':															
ASSESSME	ENT	:																
		F	ICAL LIGH	T					NDAN	CY	sc	REEN	s			CI	_	
		HD	W/FU	NC			A			В	-		C					
NASA IOA	[3	/ /2R]		[P]]	P]]	P]		[]	*
COMPARE	[N	/N]		[N)	[N]	[N]		[3	
RECOMMEN	'DA'	ri(ons:		(If	đ:	ifı	fere	ent :	fro	om 1	NASA)					
	[/]		[]	[]	[]	(A)) ELI	ETE)
* CIL RE	TE	NT:	ION 1	RAI	IONA	L	: 2	(I 1	f ap	pli	cal	ble)						
REMARKS:												II	AI IAI	EQU.	ATE ATE	[]	
RJDA1A L ASSESSME	2/I NT	R2 II	MAN Ds Al	IFO RCS	LD D	R]	VE X-	ER S	WITO 275X	CH.	4 I	RE-Al	IAV	YZE	D BY	IOA	١.	SEE

ASSESSMEN' ASSESSMEN' NASA FMEA	T ID:	ARCS-2	186					ASA D BASEI		_]	
SUBSYSTEM MDAC ID: ITEM: 5, 6	:	ARCS 2186 RJDA1A	L2/	R2 MA	NIFC	DLD	DRIVE	R ON	SWIT	CH	CONT	TACTS
LEAD ANAL	YST:											
ASSESSMEN	IT:										_	
C	CRITICAL		RE	DUNDA	MCA	SCI	REENS			CII		
	FLIGI HDW/FU		A		В		C	;				
NASA IOA]	[]	[]]]		[]	*
COMPARE	[N /N]	[3	[3	[]		[]	
RECOMMEN	DATIONS	: (If	dif	feren	t fr	om	NASA)					
	[/		[]	C]	. []	(A	[.DD/	DELE	CTE)
* CIL RE	TENTION	RATION	ALE:	(If	appl	.ica		ADEQU ADEQU	JATE JATE	[]	
REMARKS: RJDA1A I ASSESSME	2/R2 MA	NIFOLD ARCS 12	DRIV 271X	ER SW -1227	VITCH	i 4	RE-AN	ALYZI	ED BY	Z IC	A.	SEE

ASSESSM ASSESSM NASA FM	EN'	r j	[D:	ARCS	-21	L87				NASA BASE	LIN] 1	
SUBSYST MDAC ID ITEM: 7, 8		•		ARCS 2187 RJDA:	lA	L2/R2	MANI	FOLD	DRIV	ER OF		•	, (C	' CONTA	CTS
LEAD AN	ALY	ST	':												
ASSESSMI	ENT	:													
	CR		ICAL LIGH	ITY		REDUN	IDANC'	Y SCI	REENS			CIL			
			W/FU			A]	В	(c		ITE	M		
NASA IOA	[3	/ /3]]]	[]	[[]		[]	*	
COMPARE	[N	/N		[]	[]	[]		[]		
RECOMMEN	DA'	ric	ons:	(If	di	ffere	nt fr	om N	ASA)						
	[/]	[1	(3	[J	(AI	[DD/DE] LE	TE)	
* CIL RE	TEN	ΤI	ON F	RATION	ALE	: (If	appl	icab	le)			•		,	
REMARKS:		_							INA	DEQUA'. DEQUA'	ΓE	[]]		
RJDA1A L	2/R VT	ID	MANI s AR	FOLD D	RI 71	VER SW X-1227	ITCH	4 RI	E-ANA	LYZED	BY	IOA.		SEE	

ASSESSME ASSESSME NASA FME	ENT	II			:S-2188				N	ASA I BASEI		[]	
SUBSYSTEMDAC ID: ITEM: 7, 8				ARC 218 RJI		/R2	MANIF	OLD	DRIVE	R OFI	F SWI	гтсн	co	NTACTS
LEAD AND	ALY	ST	:											
ASSESSMI	ENT	:												
	CR				R	EDUN	DANCY	SCR	EENS			CIL		
	1		LIGI W/F		A		E	3	(2				
NASA IOA	[3	/ /3]	[[]	[]	[]		[]	*
COMPARE	[N	/N]	£]	C]	[]		[]	
RECOMME	NDA	TI	ons	:	(If dif	fere	ent fr	om N	ASA)					
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* CIL R		NT	ION	RAT	IONALE:	(II)	f appl	licab	i	ADEQU ADEQU]	
REMARKS RJDA1A ASSESSM	L2/	R2	MA Ds	NIFO: ARCS	LD DRIV	ER S	SWITCH 275X.	1 4 F	RE-AN	ALYZE	D BY	IO	١.	SEE

ASSESSM	ASSESSMENT DATE: ASSESSMENT ID: ARCS-2189 NASA FMEA #: SUBSYSTEM: ARCS											ASA BASE		[]	
SUBSYST MDAC ID ITEM: 9, 10				2189	A	L2,	/R2	MAN	IF	OLI	D DRIVE	R ON	SWI	тсн	CO	NTACTS
LEAD AN	ALY	ST	:													
ASSESSMI	ENT	:														
	CR		ICAL LIGH	ITY T		RI	EDUI	NAAN	CY	sc	CREENS			CII		
	•	HD	W/FU	NC		A			В		C					
NASA IOA	[3	/ /2R]	[P]	[[P]	[[P]		[]	*
COMPARE	[N	/N	1	[N]	[N]	[И]		[]	
RECOMMEN	VDA!	ΓI	ons:	(If	d :	ifi	fere	ent :	fr	om	NASA)					
	[/	1	[]	[]	[J	(Al	[DD/[ETE)
* CIL RE	ETEI	NT:	ION I	RATIONA	LI	Ξ:	(If	f app	91 :	ica	AE	EQU <i>I</i> EQU <i>I</i>		[]	
REMARKS: RJDA1A I ASSESSME	L2/I	R2 II	MAN S AF	FOLD F)R]	IVE	ER S	SWIT(CH	4		_				SEE

ASSESSMENT DATASSESSMENT ID:		190			TA: INE [] IEW []
SUBSYSTEM: MDAC ID: ITEM: 9, 10	ARCS 2190 RJDA1A	L2/R2 MA	NIFOLD	ORIVER ON S	WITCH CONTACTS
LEAD ANALYST:					
ASSESSMENT:					
FL	CALITY IGHT	REDUNDA A	NCY SCR	EENS C	CIL ITEM
HDW,	/FUNC	A	Б	C	
NASA []	/] /2R]	[] [P]	[] [P]	[] [P]	[] *
COMPARE [N	/N]	[N]	[и]	[N]	[]
RECOMMENDATIO	NS: (If	different	from N	ASA)	
· ·	/]	[]	[]	[]	[] (ADD/DELETE)
* CIL RETENTI	ON RATIONA	ALE: (If a	ıpplicab	le) ADEQUA' INADEQUA'	-
REMARKS: RJDA1A L2/R2 ASSESSMENT ID	MANIFOLD D s ARCS 122	RIVER SWI	TCH 4 R	E-ANALYZED	BY IOA. SEE

ASSESSM ASSESSM NASA FM	ENT	, I			-219 :	1			1	NASA BASE		[]	
SUBSYST MDAC ID ITEM: 11, 12				ARCS 2191 RJDA	•	2/R2	MANI	FOLD	DRIV	ER OF	f Sw:	гтсн	CONT	ACTS
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR			ITY	I	REDUI	NDANC	c sci	REENS			CIL		
	:		LIGH W/FU		1	A	I	3	(2		ITE	M	
NASA IOA	[3	/3]	[]	[]	[]		[] *	
COMPARE	[N	/N]	[]	[]	[)		[]	
RECOMME	NDA'	TI	ons:	(I	f dif	fere	ent fr	om 1	IASA)					
	[/]	[)	[]	[]	(AE	[D/D] ELETE)	
* CIL RI	ETE	NT:	ON	RATIO	NALE:	(If	appl	icak	ole)					
										DEQUA		[]	
REMARKS: RJDA1A	L2/1	R2	MAN	IFOLD	DRIV	ER S	WITCH	[4 F				- IOA	. SEE	j I
ASSESSMI	:NT	TI)s A'	RCS 1:	2271X	7-122	75Y							

ASSESSME ASSESSME NASA FME	NT	IL		ARCS-2	2192					SA DA ASELI N	NE]]	
SUBSYSTE MDAC ID: ITEM: 11, 12				ARCS 2192 RJDA1	A L2/	'R2 M	IANIF	OLD	DRIVER	OFF	swi	тсн	CO	NTACTS
LEAD ANA	LYS	ST	:											
ASSESSME	NT:	:												
	CR			ITY	RI	EDUNE	DANCY	SCI	REENS			CIL	1	
	1		LIGH W/FU		A		В	1	С				_	
NASA IOA	[3	/3]	[]	[[]]]		[]	*
COMPARE	[N	/N]	[]	[]	[]		[]	
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ASSESSMENT DATE: ASSESSMENT ID: ARCS-2193 NASA FMEA #: SUBSYSTEM: ARCS																	DAT LIN NE]		
SUBSYSTI MDAC ID: ITEM: 13, 14	:				219	93	A	L2,	/R2	MAI	NI	F	DLD	DRI	VE	R ON	ı sw	ITC	:H	COI	NTACTS	;
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SUBSYSTEM MDAC ID: ITEM: 13, 14				ARCS 2194 RJDA1A	L2/	'R2 M#	NIFC)LD	DRIVEF	ON	SWIT	CH	CONT	TACTS
LEAD ANA	LYS	T:												
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	CR1			ITY T	RI	EDUND	ANCY	SCR	EENS			CII		
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SUBSYST MDAC ID ITEM: 15, 16	:			ARC 219 RJD	5	2/R2	MANI	FOLD	DRIV	ER OF	F SWI	тсн	CONTACTS
LEAD AN	ALY	ST	':										
ASSESSMI	ENT	!:											
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SUBSYSTEMDAC ID: ITEM: 15, 16				ARCS 2190 RJD	6	/R2 :	MANIF	OLD 1	DRIVE	R OF	F SW	ITCH	cc	NTACTS
LEAD ANA	LYS	T:	;											
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-219	7		NASA DAT BASELIN NI]
	ARCS 2197 RJDA1A L	2/R2 M	ANIFOLD L	OGIC SWITCH	ī	
LEAD ANALYST:						
ASSESSMENT:						
CRITICALI FLIGHT	TTY T	REDUNDA	NCY SCRE	ENS	CIL ITEM	,
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SUBSYSTEMDAC ID:				ARCS 2198 RJDA1	L2/	'R2 M	ANIF(ord ro	GIO	C SWITC	Н			
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SUBSYSTI MDAC ID: ITEM: 1, 2				ARCS 2200 RJDA1	.A I	/2ر	'R2	MAI	NI	FO	LD	LOGI	C	ON	SWI	гсн	co	NTA	.CTS
LEAD AND	ALY	ST	:																
ASSESSM	ENT	:																	
		F	LIGH'	ITY T NC			EDU	NDA	NC	Y B	SCI	REENS	s C			C:	IL PEM		
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SUBSYSTE MDAC ID: ITEM: 3, 4			ARCS 2201 RJDA	lA L	2/R2	MANII	FOLD	LOGI	C OFF	SWITC	H CON	TACTS	
LEAD ANA	LYS	T:											
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LEAD AN	ALY	ST	:											
ASSESSMI	ENT	:												
	CR				R	EDUN	DANCY	SCI	REENS			CII		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C														
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2203	NASA 1 BASE	DATA: LINE [] NEW []
	ARCS 2203 RJDA1A L2/R2	MANIFOLD LOGIC ON S	SWITCH CONTACTS
LEAD ANALYST:			
ASSESSMENT:			
CRITICAL FLIGH	ITY REDU	NDANCY SCREENS	CIL
	NC A	В С	ITEM
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	IFOLD LOGIC SV RCS 12266X-122	WITCH 3 RE-ANALYZED 270X.	BY IOA. SEE

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SUBSYSTEM: MDAC ID: ITEM: 7, 8	ARCS 2205 RJDA1A	L2/R2	MANIF	OLD	LOGIC	OFF	SWITCH	CONTACTS
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL		REDUN	IDANCY	SCF	REENS		CII	
FLIGH HDW/FU		A	В		С		ITE	EM
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SUBSYSTE MDAC ID: ITEM: 7, 8				ARCS 2206 RJDA1	A L2,	/R2 N	(ANIF	OLD	LOGIC	OFF	SWIT	гсн	CONT	ACTS
LEAD ANA	LYS	ST	:											
ASSESSME	NT	:												
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	1		LIGH W/FU	NC	A		В		С					
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REMARKS RJDA1A ASSESSM	L2/	R2	MAN Ds 1	NIFOLD ARCS 12	LOGI 2266X	C SW	TTCH	3 R	E-ANAI	YZEI	В ВУ	IOA	. SI	EE

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SUBSYST MDAC ID ITEM:		ARCS 2207 RJDA21	3 L3	3/R3/	R5 MA	NIFO	LD DR	IVER SW	ITCI	i.	
LEAD AND	ALYST:										
ASSESSMI	ENT:										
	CRITICAL FLIGH		R	EDUN	DANCY	SCRI	EENS		C1		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2208			NASA DAT BASELIN NE]	
	ARCS 2208 RJDA2B L3/	'R3/R5 M	ANIFOLD	DRIVER SW	ІТСН		
LEAD ANALYST:							
ASSESSMENT:							
CRITICAL		DUNDANC	Y SCREEN	NS	CIL		
FLIGH HDW/FU		:	В	С			
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2209		NASA DATA: BASELINE NEW	
MDAC ID:	ARCS 2209 RJDA2B L3/R3/R5	MANIFOLD D	RIVER ON S	WITCH
LEAD ANALYST:				
ASSESSMENT:				
CRITICALI FLIGHT	TY REDUNDA	NCY SCREENS		CIL
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MDAC ID:	ARCS 2211 RJDA2B L3/	177 (51.2
LEAD ANALYST:		
ASSESSMENT:		
CRITICAL FLIGH HDW/FU	ır	
NASA [/ IOA [3 /3] [L i
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LEAD ANA	LYS	T:												
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LEAD ANA	ALYST:							
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	FLI	CALITY CGHT FUNC	REDI A	JNDANCY SCE B	REENS C	CI	L EM	
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LEAD ANA	LYS	T:	:											
ASSESSME	NT:													
	CRI			ITY	R	EDUNI	DANC	SCR	EENS			CII		
	H		LIGH V/FU		A		I	3	(2			,	
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SUBSYSTEM: MDAC ID: ITEM: CONTACTS 11, 12	ARCS 2219 RJDA2B I	.3/R3/R	5 MA	NIFOL	D DRIVER	OFF	'sW	/ITCH	
LEAD ANALYST:									
ASSESSMENT:									
CRITICAL: FLIGHT		REDUND	ANCY	SCRE	ENS		CI		
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SUBSYSTEM: MDAC ID: ITEM: CONTACTS 15, 16	ARCS 2223 RJDA2B L3	/R3/R5 M	ANIFOL	D DRIVER	OFF	sw	ІТСН	
LEAD ANALYST:								
ASSESSMENT:								
CRITICAL FLIGH		EDUNDANC	Y SCRE	ENS		CI		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2225		ASA DATA: BASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2225 RJDA2B L3/R3/	R5 MANIFOLD LOG	SIC SWITCH
LEAD ANALYST:			
ASSESSMENT:			
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SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	ARCS 2227 RJDA2B L3	3/R3/R5 N	IANIFOLI	LOGIC	ON SWI	тсн	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2231		NASA DA BASELI N	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 5, 6	ARCS 2231 RJDA2B L3/	/R3/R5 MAN	NIFOLD LOGIC ON	SWITCH
LEAD ANALYST:				
ASSESSMENT:				
CRITICAL FLIGH HDW/FU	T	EDUNDANCY B	SCREENS C	CIL ITEM
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ASSESSMENT IDS A	RCS 12276X-	-12280X.		

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SUBSYSTEM MDAC ID: ITEM: CONTACTS	-	ARCS 2232 RJDA2	B L3,	/R3/R	5 MANIFOL	D LOGIC ON S	SWITCH	
LEAD ANAL	YST:							
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REMARKS:												IN	AD	EQ	TAU TAU	E	[]	
RJDA2A L ASSESSMEI	4/R NT	ID	MANI S AR	FOLD D	RIV 913	/E: (-	R SV 1229	VIT 95X	CH •	•	5 RI	E-AN	ΆL	YZ]	ED	BY	IOA		SEE

ASSESSMEI ASSESSMEI NASA FME	NT	ID		ARCS-2	236					SA DATA SASELINE NEW	[]	
SUBSYSTEM MDAC ID:	M:			ARCS 2236 RJDA2A	L4/	R4 MA	NIFC	LD DR	IVEF	SWITCH				
LEAD ANA	LYS	T:												
ASSESSME	NT:	:												
	CR]			ITY	RE	DUNDA	MCY	SCREE	NS		C:	IL PEM	[
	ŀ		JIGH V/FU	NC T	A		В		С					
NASA IOA	[2	/]	[]	[]	[]	[x]	*
COMPARE	[N	/N]	[]	[1	ſ]	[N]	
RECOMMEN	IDA!	ri(ons:	(If	dif	ferent	t fr	om NAS	SA)					
	(/]	[.	1	[]	[] (2		/DI		ETE)
* CIL RI	ETE	NT	ION	RATION	ALE:	(If	appl	icable	A	DEQUATE DEQUATE]	
REMARKS: RJDA2A I ASSESSMI	L.4 /	R4	MAN Ds <i>P</i>	IFOLD RCS 12	DRIV	ER SW -1229	ITCH 5X.	6 RE	-ANA	LYZED B	Y I	OA	•	SEE

ASSESSM ASSESSM NASA FM	ENT	ו יו	D:	ARCS	-22	37						N		DATA ELINI NEV]	
SUBSYST MDAC ID ITEM: 1, 2				ARCS 2237 RJDA		L4	/R4	MAN	ΊF	OLD	DRI	VE	R OI	N SW]	тсн	CONT	TACTS
LEAD AN	ALY	ST	':														
ASSESSM	ENT	:															
		F	LIGH	_		R	EDUI	NDAN	CY	SC	REEN	s			CII ITE		
		HD	W/FU	NC		A			В			C			111	API	
NASA IOA	[3	/ /2R]	[P]	[P]	[P]		[] *	
COMPARE	[N	/N]	[N]	[N)	[N]		[3	
RECOMMEN	IDA!	rI(ONS:	(II	f d:	if1	fere	ent :	fro	om 1	NASA)					
	(/	Ì	[3	[]	[J	(A l	[DD/D] ELET:	E)
* CIL RE	TE	(T	ON F	NOITAS	IALE	E :	(If	app	ol i	.cak	ole)						
REMARKS:												IAL	EQU.	ATE	[]	
RJDA2A I ASSESSME	.4/F NT	R4 II	MANI S AR	FOLD RCS 12	DRI 291	VE X-	R S	WITC 95X.	H	6 R	E-AN	IAI	YZEI	D BY	IOA	• SI	EE

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		ARCS-2	238	3]		ASEL	ATA: .INE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM: 1, 2		ARCS 2238 RJDA2A	. L4	4/R	4 MANI	EFC	LD	DRIV	ER	ON	SWIT	СН	CON	TACTS
LEAD ANALYST	:													
ASSESSMENT:														
	ICAL LIGH		1	RED	UNDAN	CY	SC					CII		
HD.	W/FU	NC	1	A		В			С					
NASA [IOA [3	/ /2R]	[:	P]	[P]	[P]		[]	*
]]		N			[]	
RECOMMENDATI	ons:	(If	di	ffe	rent	fr	om	NASA)						
[/]	[]	[]	[]	(Al	[DD/I) DELE	TE)
* CIL RETENT	ION	RATION	ALE	: (If ap	pl:	ica				ATE ATE	-]	
REMARKS: RJDA2A L4/R4 ASSESSMENT I	MAN Ds A	IFOLD RCS 12:	ORI 291	VER X-1	SWIT	CH •	6	RE-AN	IAL	YZEI	D BY	IO	A .	SEE

ASSESSMI ASSESSMI NASA FMI	ENT ID:	ARCS	-223	9			1	NASA I BASEI	LINE]	
SUBSYSTEMDAC ID:		ARCS 2239 RJDA2	2A L	4/R4	MANI	FOLD	DRIV	ER OFF	sw	тсн	CONTAC	TS
LEAD ANA	ALYST:											
ASSESSME	ENT:											
	CRITICA FLIG		1	REDUN	DANC	Y SCI	REENS			CIL		
	HDW/F	UNC	1	A	1	В	(2			•	
NASA IOA	[3 /3]	[]	[]] []		[] *]	
COMPARE	[N /N]	[]	[]	[]		[]	
RECOMMEN	DATIONS	: (If	dif	fere	nt fr	om 1	NASA)					
	[/]	[]	[]	[]	(A)	[DD/DI] ELETE)	
* CIL RE	TENTION	RATION	ALE:	(If	app]	licab	ole)					
REMARKS:								DEQUA DEQUA		[]	
RJDA2A L ASSESSME	4/R4 MA	NIFOLD ARCS 12	DRIV 291X	ER SI -1229	WITCH	16 R	E-ANA	LYZED	ву	IOA.	SEE	

ASSESSME ASSESSME NASA FME	TN	II		ARCS	-2240					ASA D BASEL	INE]	
SUBSYSTEMDAC ID: ITEM: 3, 4				ARCS 2240 RJDA	2A L4	/R4 1	MANIF	OLD 1	DRIVE	R OFF	SW:	гтсн	со	NTACTS
LEAD ANA	LYS	ST	:											
ASSESSMI	ENT	:												
	CR		ICAL LIGH	ITY	R	EDUN	DANCY	SCR	EENS			CIL		
	1			NC237	6НА		E	3	C	:				
NASA IOA	[3	/3]	[]	[[]	[]		[]	*
COMPARE	[N	/N]	C]	[]	[]		(]	
RECOMME	NDA	TI	ons:	(1	f dif	fere	nt fi	om N	ASA)					
	[/]	[]	(]	[]	(A	[.DD/E		ETE)
* CIL R	ETE	NT	ION	RATIO	NALE:	(If	appl	licab	4	ADEQUA ADEQUA]	
REMARKS RJDA2A ASSESSM	L4/	R4	MAI Ds 1	NIFOLI ARCS :	DRIV 12291	/ER S K-122	WITCE 295X.	16 F	E-AN	ALYZE	D BY	IOA	۱.	SEE

ASSESSM ASSESSM NASA FM	ENT	ID:	ARCS-	-224	1				NASA BASI	ELINE			
SUBSYST: MDAC ID ITEM: 5, 6			ARCS 2241 RJDA2	A L	4/R4	MANI	FOLD	DRIV	/ER ON	swi	тсн	CONTA	CTS
LEAD AN	ALYS'	T:											
ASSESSMI	ENT:												
	1	FICAL FLIGH DW/FU	_		REDU! A	NDANC	Y SC B	REENS	c		CII	=*	
NASA IOA	[:	/ 3 /2R]	[]] P]	[] P]	[] P]		[] *	
COMPARE	[1	N / N]	[]	4]	[]	N]	[N]		[]	
RECOMMEN	DAT]	ons:	(If	di	ffere	ent fi	rom 1	NASA)					
	[/]	[]	[]	ſ]	(AI] ELETE)
* CIL RE	TENT	ION	RATION	ALE:	(If	app]	lical		ADEQU. ADEQU.		[]	
RJDA2A L ASSESSME	4/R4 NT I	MAN: Ds Al	FOLD I	DRIV 291X	ER S	WITCH	I 6 I	RE-AN	ALYZE	D BY	IOA	. SEI	€

ASSESSME ASSESSME NASA FME	ENT	II		AR	CS-2	242						A DA		[]	
SUBSYSTEMDAC ID: ITEM: 5, 6				AR 22 RJ	42	L4/	'R4	MANI	FOLD	DRI	VER	ON S	riwa	СН	CON	TACTS
LEAD ANA	ALYS	5 T :	:													
ASSESSMI	ENT	:														
	CR		CAL LIGH			RE	EDUI	ONAGN	ey sc	REEN	S			CII		
	1		V/FU			A			В		С					
NASA IOA	[3	/3]		[]	[[]]]			[]	*
COMPARE	[N	/N]		[]	[]	[]			[]	
RECOMME	NDA'	ric	ONS:		(If	difi	fer	ent i	rom	NASA)					
	(/]		[]	[]	[]		(AI	[DD/I) DELF	ETE)
* CIL R	e te i	NT:	ION	RAT	IONA	LE:	(I:	f app	olica			QUA' EQUA'		[]	
REMARKS RIDAZA		R4	MAN	TFO	LD D	RIVI	ER :	SWIT	CH 6	RE-A	NALY	ZED	вч	IO	١.	SEE

ASSESSMENT IDS ARCS 12291X-12295X.

ASSESSM ASSESSM NASA FM	ENT	ID:		ARCS-	2243				N	ASA D BASEL		[]	
SUBSYSTI MDAC ID ITEM: 7, 8				ARCS 2243 RJDA2	A L4,	/R4 1	MANII	FOLD	DRIVE	R OFF	SW	ITCH	cc)NTACTS
LEAD AND	ALYS	T:												
ASSESSMI	SSESSMENT: CRITICALITY REDUNDANCY SCREENS													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
		IDW/			A		E	3	С			TTE	M	
NASA IOA	[3 /	3]	[]	[]	[]]		[]	*
COMPARE	[N /	N]	[]	[]	[]		[]	
RECOMMEN	IDAT	'ION:	s:	(If	dif	feren	t fr	om N	(ASA)					
	[/]	[]	[3	[]	(Al	[DD/DI] ELE	TE)
* CIL RE	TEN	TIO	N R	ATIONA	ALE:	(If	appl	icab						
REMARKS:										DEQUAT		[]	
RJDA2A I ASSESSME	4/R	4 MZ IDs	ANI AR	FOLD C	RIVE 291X-	ER SW -1229	ITCH	6 R	E-ANA	LYZED	ву	IOA.	. ;	SEE

ASSESSME ASSESSME NASA FME	NT I	D:	ARCS	-2244						ATA: INE [NEW [
SUBSYSTE MDAC ID: ITEM: 7, 8			ARCS 2244 RJDA		/R4]	MANIF	OLD	DRIVEI	R OFF	SWIT	CH C	ONTACTS
LEAD ANA	LYST	r:										
ASSESSME	NT:											
		rical		R	EDUN	DANCY	SCR	EENS			IL TEM	
		FLIGH DW/FU		A		E	3	С				
NASA IOA	[:	/ 3 /3]	[]	[]	[]	[] [*
COMPARE	[]	и /и	1	[)	[]	[1	(]	
RECOMMEN	IDAT:	ions:	: (I	f dif	fere	nt fi	com N	IASA)				
	[/]	ί]	[]	[]		[D/DEI	LETE)
* CIL RE		TION	RATIC	NALE:	: (If	appl	licab	A	DEQU <i>I</i> DEQU <i>I</i>	ATE ATE		
REMARKS: RJDA2A I ASSESSMI	4/R	4 MAN	NIFOLD ARCS 1	DRIV	VER S K-122	WITCI 295X.	H 6 F	RE-ANA	LYZEI	BY :	IOA.	SEE

ASSESSME ASSESSME NASA FME	22	45						_		DATA LINE NEW							
SUBSYSTE MDAC ID: ITEM: 9, 10				ARCS 2245 RJDA2	A	L4 ,	/R4	MAN	ΙF	OLD	DRI	VE:	R ON	swi	тсн	CO	NTACTS
LEAD ANA	LYS	ST:	:														
ASSESSME	NT:	:															
	CRI		ICAL:	ITY I		R	EDUI	NDAN	CY	SC	REEN	s			CII		
	/FUI		A			В			C			-11	3F1				
NASA IOA	[3	/ /2R]	[P]	[[P]	[P]		[]	*
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMMEN	DAI	'IC	ons:	(If	đ:	ifi	fere	ent	fro	om 1	NASA)					
	[/	1	[]	[]	ſ]	(Al	[DD/E		ETE)
* CIL RE	TEN	TI	ON F	RATION	\LI	Ξ:	(If	ap	pli	cak	ole)						
DEMARKS.											I		DEQU.	ATE ATE	[]	
REMARKS: RJDA2A L ASSESSME)R]	[VE	R S	WIT 95X	CH •	6 F	RE-AI	IAN	LYZE	D BY	IOA	٠.	SEE				

ASSESSMENT ASSESSMENT NASA FMEA	:S-22	24	6									SA I		E	-]						
SUBSYSTEM: MDAC ID: ITEM: 9, 10				ARC 224 RJI	_	L	4/	R4	MAN	ΙI	FO	LD	DRI	VE	R	ON	SW	ΊΊ	CH	CO	NT.	ACTS
LEAD ANALYST: ASSESSMENT:																						
ASSESSMEN	T:																					
С			RE	DU	NDAI	NC	Y:	SC	REEN	IS					CII							
			A				В			(3											
NASA IOA]	3	/ /2R]		[P]		[[P]	1	[]	P]			[]	*	•
COMPARE	[N	/N]		[N]		[N	3	!	[]	N]			[]	l	
RECOMMEND)A:	rI(ons:		(If	d :	if:	fer	ent	. 1	fr	mc	NAS	A)								
			/											[]		(A	[.DD/	DE	j LE:	ΓE)
* CIL RET	re:	NT	ION	RAT	'ION	AL	E:	(:	If a	ıp)	pl	ica				DEQ DEQ]	
REMARKS: RJDA2A L ASSESSME	4 / NT	R4	MAI Ds i	NIFO ARCS	DLD 5 12	DR 29	IV 1X	ER -1:	SW] 2295	T 5X	CH	6	RE-	AN	A	LYZ	ED	вұ	Z IC	A.		SEE

ASSESSM ASSESSM NASA FM	EN]	ני	D:		RCS-22	247				NASA BASE	DATA: LINE NEW	[]	
SUBSYST MDAC ID ITEM: 11, 12	:			22	RCS 247 JDA2A	L4/R4	MANI	FOLD	DRIV	ER OF		-	CON	FACTS
LEAD AND	ALY	ST	: :											
ASSESSME	ENT	:												
	CR		ICAI LIGH		?	REDUI	NDANC	Y SCI	REENS			IL		
	1	HD	W/FU	NC		A	1	В	(2	1	TEM		
NASA IOA	[3	/3]	[]	[]	[]	[] *]	
COMPARE	[N	/N]	£]	[]	[]	[,]	
RECOMMEN	DAT	ľI	ONS:		(If di	ffere	ent fr	om N	ASA)					
	[/]						[]	[]	(ADD)	DEI	ETE)
* CIL RE	TEN	TI	ON 1	RAT:	IONALE	: (If	appl	icab	le)		. ,	_		,
REMARKS:									A INA	DEQUAT DEQUAT	re į]		
RJDA2A L4/R4 MANI ASSESSMENT IDS AR					D DRI	VER S	WITCH	6 R	E-ANA	LYZED	BY IC	A.	SEI	Ξ

ASSESSME ASSESSME NASA FME	ENT	IL		ARCS.	-2248					ASA D BASEL		-]	
SUBSYSTEMDAC ID: ITEM: 11, 12	}			ARCS 2248 RJDA	2A L4,	/R4]	MANIF	OLD	DRIVE	R OFF	' SWI	TCH	со	NTACTS
LEAD ANA	ALYS	ST:	:											
ASSESSMI	ENT	:												
	CR			ITY	R	EDUN	DANCY	SCR	EENS			CIL		
	LIGH V/FU		A		E	3	C	!						
NASA IOA]	3	/3]	[]	[]]	[]		[]	*
COMPARE	[N	/N]	[]	ſ]	[]		[]	
RECOMME	NDA'	TI	ons:	(I	f dif	fere	nt fi	com N	IASA)					
	[/	1	ι	3	[3	[]	(Al	[DD/D		ETE)
* CIL R		NT	ION	RATIC	NALE:	(If	appl	licak	1	ADEQUA		-]	
REMARKS RJDA2A ASSESSM	L4/	R4	MAN Ds <i>1</i>	NIFOLI ARCS 1	DRIV	/ER S	WITCE 295X.	H 6 I	RE-ANZ	LYZEI	D BY	IOA	١.	SEE

ASSESSM ASSESSM NASA FM	ENT	CS-:	22	49							N	ASA BAS	EL.	INE]					
SUBSYST MDAC ID ITEM: 13, 14	:			AR 22 RJ	49	A :	L4,	/R4	MA]	NI	F	DLD	DR	VE	R O	N S	SWI	гсн	CO	NTAC:	rs
LEAD AN	ALY	ST	:																		
ASSESSM	ENT	:																			
	CRITICALITY FLIGHT HDW/FUNC								NDAI		Y B	SC	REEN	s C				CII			
NASA IOA]	3	/ /2R]		[P]	1	:	P]]	P]			[]	*	
COMPARE	ſ	N	/N)		[N]	[N]	[N]			[]		•
RECOMME	IDA:	ric	ons:	((If	di	Ĺfí	er	ent	f	rc	m l	NASA)							
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* CIL RE										I	IAN		JAT:	E	[-					
RJDA2A I ASSESSME	.4/F ։NT	₹4 Тг	MANI	FOI	D D	RI	VE	RS	TIWE	CI	H	6 F	RE-A	NAI	LYZE	ED I	BY	IOA	•	SEE	

ASSESSMI ASSESSMI NASA FMI	ENT	I			CS-225	0					DATA: LINE NEW	[
SUBSYSTI MDAC ID: ITEM: 13, 14			AR(22! RJ)	50	54/R4	MANIF	OLD	DRIVE	R ON	SWIT	сн	CON	TACTS	
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
	CR			LITY		REDU	NDANCY	sc	REENS			CII		
	_	LIG W/F			A	В		C						
NASA IOA	[3	/]	[]]]	[[]		[]	*
COMPARE	[N	/N	[]	[]	[]	[]		[]	
RECOMME	NDA	TI	ONS	;:	(If d	iffer	ent fr	om	NASA)					
	[/]	C]	[]	[]	1	(A)		DELI	ETE)
* CIL R	ETI	INE	OI	I RAT	LIANOI	E: (I	f appl	ica		DEQI	UATE UATE	[]	
REMARKS RJDA2A ASSESSM	L4/	/R4	MA [Ds	ANIFO ARCS	LD DR	IVER 1X-12	SWITCH	6						SEE

ASSESSMI ASSESSMI NASA FMI	ENT 1	D:	ARCS-	·2251	L			1	NASA I BASEI		[]	
SUBSYSTEMDAC ID:			ARCS 2251 RJDA2	A L4	l/R4 :	MANI	FOLD	DRIV	ER OFF	'SW	ІТСН	CON	TACTS
LEAD ANA	LYSI	?:											
ASSESSME	ENT:												
		CICAL LIGH	ITY	F	EDUN	DANC	y sci	REENS			CIL		
		W/FU		A		1	В	C	:		ITE	M	
NASA IOA	[3	/3]	[]	[]	[]]] *	
COMPARE	[N	/N]	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If	dif	fere	nt fi	com N	IASA)					
	[/	J	[]	[•]	[]	(Al	[DD/DI] ELETI	Ξ)
* CIL RE	TENT	ION 1	RATION	ALE:	(If	app1	icab	•					
REMARKS:									DEQUA' DEQUA'		[]	
RJDA2A L ASSESSME	4/R4 NT I	MAN: Ds Al	FOLD P	DRIV 291X	ER SW -1229	VITCH	16 R	E-ANA	LYZED	ву	IOA.	. SE	ĒΕ

ASSESSME ASSESSME NASA FME	ТN	ID	TE:	ARC	s - 22	52					SA DA]	
SUBSYSTE MDAC ID: ITEM: 15, 16				ARC 225 RJD		L4/]	R4 M	ANIFO	DLD	DRIVER	OFF	SWI	TCH	COI	NTACTS
LEAD ANALYST:															
ASSESSME	nt	:								n T T M C			CIL	i	
	CR			YTI		RE	DUND	ANCY	SC	REENS			ITE		
			LIGH W/FU			A		В		С					
NASA IOA	[3	/]		[[]	[]	[]		[]	*
COMPARE	(N	/N	3		[]	[]	[]		[]	
RECOMME	ND?	TI	ons	:	(If	dif:	ferer	nt fr	om	NASA)					
		[/	1		ſ	1	ĺ]	[]	(A	[/DD/	DET]	ETE)
* CIL R	ET	ENI	MOI	RAT	IONA	LE:	(If	app]	lica		DEQU	ATE ATE	[]	
REMARKS RJDA2A ASSESSN	L4 (EN	/R4 T :	MA [Ds	NIFO ARCS	LD [3 122	ORIV 291X	ER S	WITC	н 6	RE-AN	LYZE	D BY	Z IO	Α.	SEE

ASSESSM ASSESSM NASA FM	ני:	D:	ARCS-	-22	253	3							TA: NE [EW [
SUBSYST				ARCS 2253 RJDA2	A	L4	/R4	MAI	NIF	OLD	LOG	IC	SWITC	H	-	
LEAD AND	ALY.	ST	':													
ASSESSMI	ENT	:														
	CR	IT F	ICAL:	[TY r		R	EDUN	IDAN	CY	SCI	REEN	s		CII	ı	
	I		W/FUI			A			В			С		ITE	M	
NASA IOA]	3	/ /2R]]	P]	[P]	[P]	[r] *	
COMPARE	[N	/N]	[N	1 .	[N]	[N]	[]	
RECOMMEN	DAI	·IC	ons:	(If	di	fí	fere	nt	fro	om N	'ASA)					
	ECOMMENDATIONS:]		[ADD/DI] ELETI	Ξ)
* CIL RE	ren	TI	ON R	ATIONA	LE	:	(If	apı	oli	cab	le)					
REMARKS:											IN	ADE		į		
RJDA2A L4 ASSESSMEN	I/R	4 ID	MANI) S AR	FOLD L CS 122	OG 86	IC X-	SW]	TCE OX.	5	RE-	-ANA	LYZ	ED BY	IOA.	SEE	!

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	ARCS-2	254					SA DATA: BASELINE NEW	[]
SUBSYSTEM MDAC ID:	••	ARCS 2254 RJDA2A	L4/	R4 M2	ANIFO	OLD LO	GIC	SWITCH		
LEAD ANA	LYST:									
ASSESSME	T:									
•	CRITICAL		RE	DUND	ANCY	SCRE	ENS		CIL ITEN	1
	FLIGH HDW/FU		A		В		С			
NASA IOA	[/ [2 /2]	[]	[]	[]	[x] *
COMPARE			[]	[1	[]	[И]
RECOMMEN	IDATIONS	: (If	dif	ferer	nt fr	om NA	SA)			
KECOLELE]	[1	[]	[] (2	[ADD/D] ELETE)
* CIL RI	ETENTION	RATION	ALE:	(If	app]	licabl		ADEQUATE ADEQUATE	[]
REMARKS RJDA2A ASSESSM	: L4/R4 MA ENT IDs	NIFOLD ARCS 12	LOGI 2863	C SW:	ITCH 90X.	5 RE	-ANA	LYZED BY	IOA.	SEE

ASSESSM ASSESSM NASA FM	ENT	.	ID:		RCS-	-22	255	5					ì			TA: NE [EW [:] 1	
SUBSYST MDAC ID ITEM: 1, 2		}		2	RCS 255 JDA2	A	L4	/R4	MAN	ΙIF	,OTD	LOG	ic	ON	SW:	ІТСН	CON	NTACTS	;
LEAD AN	ALY	SI	? :																
ASSESSM	ENT	:																	
	EDUI	NDAN	CY	SC	REEN	s			CI										
	1	HD	W/FU	NC			A			В			С			II	EM		
NASA IOA	[3	/ /2R]		[P]	[P]	[P]		[]	*	
COMPARE	[N	/N]		[N]	[N]	[N]		[]		
RECOMMEN	DA]	ľI	ONS:		(If	di	lf1	ere	nt i	fro	om N	(ASA)	,						
			/			[]	[]]	([ADD/1] DELI	ETE)	
* CIL RE	TEN	T]	ON F	TAS	IONA	LF	:	(If	app	li	cab	le)							
REMARKS:						AD	EQU	ATE ATE	į]									
RJDA2A LASSESSME	4/R NT	4 ID	MANI S AR	FO	LD L	OG 8 6	IC	SW	ITCH	5	RE	-ANA	LY	ZED	BY	IOA.	s	EE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2256		ASA DATA: BASELINE [NEW [
SUBSYSTEM: MDAC ID: ITEM: 1, 2	ARCS 2256 RJDA2A L4/R4	MANIFOLD LOGIC	ON SWITCH C	ONTACTS
LEAD ANALYST:				
ASSESSMENT:				
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SUBSYSTEM MDAC ID: ITEM:	M:	ARCS 2270 L/R	ox or fu	MANIFOLD	2 PRESS S	ENSOR	
LEAD ANA	LYST:	D. H	ARTMAN				
ASSESSME	NT:						
	CRITICA FLIG	HT		NDANCY SCI		CIL ITEM	
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2272 L/R OX	OR	FU MA	NIFO	LD 3	PRESS SENSO	R				
LEAD ANALYST:	D. HAR	TMAN									
ASSESSMENT:											
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2273 L/R OX OR FU			•				
LEAD ANALYST:	D. HARTMAN							
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SUBSYSTEM: MDAC ID: ITEM:	ARCS 2275 L/R OX OR FU	MANIFOLD	4 PRESS SENS	or							
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM											
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	CRI		ALITY GHT	R	EDUI	NDANCY	SCR	EENS			CII		
	ŀ		FUNC	A		F	3	(ITI	EM		
NASA IOA	[3 / 3 /	3] 3]	[]	[]	[[]]	*
COMPARE	C	1]	[]	[]	[]		[]	
RECOMMEN	DAI	NOI	s:	(If dif	fere	ent fr	om N	ASA)					
	(/)	1]	[]	[]	(A)	[DD/E] ELE	TE)
* CIL RE	TEN	TIO	N RATI	CONALE:	(If	appl	icab	P	DEQUA		[]	
NO DIFFE	REN	CES	•										

ASSESSMENT ASSESSMENT NASA FMEA	r ID:	E:	1/29/88 NASA ARCS-2280 BASE 03-2A-221314-1							TA: :NE [:EW [X]	
SUBSYSTEM MDAC ID: ITEM: L3A, R1A,			ARCS 2280 L/R							, THRUS	TERS	L1A,
LEAD ANAL	YST:		D. H	. HARTMAN								
ASSESSMEN	T:									CI	-	
CRITICALITY					DUND	ITEM						
	FLIGHT HDW/FUNC					F	3	(3			
NASA IOA	[3	/1F /3	R]	[P]	[]	?]	[]	P]	[] *	
COMPARE	ι	/N	3	[N]	[]	4]	[и]	[]	
RECOMMEN	DATIC)NS	: (]	f dif	fere	nt f	rom N	IASA)				
	•	/	1	ĺ	3	ĺ]	[]	[(ADD/	DELEI	E)
* CIL RE	TENT	EON	RATIO	ONALE:	(If	app	lical		ADEQUA ADEQUA	ATE [ATE []	
REMARKS:	EES W	ITH	NASA	FMEA.	,							

ASSESSM ASSESSM NASA FM	ENT DE ENT II	ATE:	1/29/ ARCS- 03-2/	/88 -228 \-22	1 1314-	-2		NASA DATA: BASELINE [] NEW [X]				
SUBSYST MDAC ID ITEM: L3A, R1	EM:		ARCS 2281					(Pc) S	SENSOR,		-	LlA,
LEAD AN	ALYST:		D. HA	RTM	AN							
ASSESSMI	ENT:											
		IGHT				DANC	Y SCI	REENS		CII ITE		
		/FUN		1	_		В	C		415	17.7	
NASA IOA	[3	/1R /1R]	[I	?] ?]	[[P] P]	[P]	[r] * T	
COMPARE	_]	[]	[3	[]	ί]	
RECOMMEN	DATIO	NS:	(If	dif	fere	nt f	rom N	'ASA)				
	[/			[]	[]	[ADD/D] ELETE)	•
* CIL RE	TENTIC	N RA	TIONA	LE:	(If	appl	licah	l a l	,,	, 6.		'
REMARKS:					,	~FP.	1000	AD	EQUATE EQUATE	[[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	•	314-1			DATA: ELINE NEW				
MDAC ID:	ARCS 2282 L/R CHAMBI	er pressi	URE (Po) SENS	OR, TH	RUSTI	ERS L1 <i>1</i>		
LEAD ANALYST:	D. HARTMAN	4							
ASSESSMENT:									
CRITICAL FLIGH	r	EDUNDANC				CIL ITEM			
HDW/FU	NC A		В	С					
NASA [3 /1R IOA [3 /1R] [P] [P] [P] P]	[P] [P]		[) *]		
COMPARE [/] [] [3	[]		[)		
RECOMMENDATIONS:	(If dif:	ferent f	rom NAS	SA)					
[/] [] []	[]		[D/DE] LETE)		
* CIL RETENTION	RATIONALE:	(If app	licable	ADEO	UATE UATE	[]]		
REMARKS: NO DIFFERENCES.	(IOA FAIL	URE SAME	AS ARC	S-2280).	•			

ASSESSM ASSESSM NASA FM	ENT I ENT] EA #:	DATE: [D:	1/29/ ARCS- 03-2/	/88 -2283 \-221	3 .314-	·1			ASA DA' BASELII N			
SUBSYST MDAC ID ITEM: L2L, L3	:	L, R	ARCS 2283 L/R (1R, R2	CHAME	ER P	RESSU R4R	RE (Pc) S	ENSOR,	THRUS	STERS	L1L,
LEAD AND	ALYSI	?:	D. HA	RTMA	И							
ASSESSMI	ENT:											
	F	'LIGH'	ITY T NC			DANCY B		EENS C		CIL		
NASA IOA	[3 [3	/1R /3]	[P]	[P]	[P]	[] *]	
COMPARE	[/N]	[N]	[N]	[N]	[]	
RECOMMEN	ITADI	ons:	(If	dif	fere	nt fro	om NA	ASA)				
	[/]	[]	[]			[ADD/D		l
* CIL RE	TENT	ION F	RATION	ALE:	(If	appli	.cabl		DEQUATE	: r	1	
DEMADKS.									DEQUATE		j	

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2284 03-2A-2213	14-2		NASA DATA BASELINI NEV	
WD3C ID.	ARCS 2284 L/R CHAMBE LR, R2R, R3	R PRESSU R, R4R	RE (Pc)	SENSOR,	THRUSTERS L1L,
LEAD ANALYST:	D. HARTMAN	Ī			
ASSESSMENT:					
FLIGH'					CIL ITEM
HDW/FU	NC A	В	•	С	
NASA [3 /1R IOA [3 /1R] [P] [P] [P] [P] P]	[] *
COMPARE [/] [] [] [J	[]
RECOMMENDATIONS:	(If dif:	ferent fr	om NASA	·)	
[/] [] [) [. 1	[ADD/DELETE)
* CIL RETENTION REMARKS:	RATIONALE:	(If appl		ADEQUATE	

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-2285 NASA FMEA #: 03-2A-221314-1										NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: ARCS MDAC ID: 2285 ITEM: L/R CHAMBER PRESSURE (Pc) SENSOR, THRUSTERS L1L, L2L, L3L, L4L, R1R, R2R, R3R, R4R																		
LEAD ANALYST: D. HARTMAN																		
ASSESSMENT:																		
		FI	LIGH	T	Č.										CII			
												С						
NASA IOA	[3	/1R /1R]		[P]	[[P P]	[[P P]		[]]	*	
COMPARE	[/]		[]	[]	[]		[]		
RECOMMEN	DA'I	ľIC	NS:		(If o	lif	fer	ent :	fro	om 1	NASA)							
	[/]	!]	[]	[(AI	[DD/D	ELE	TE)	
* CIL RE		TI	ON I	RAT	'IONAI	Œ:	(I	f app	91 i	ical	-	AI	EQUATE	E	[]		
	NO DIFFERENCES. (IOA FAILURE SAME AS ARCS-2283).																	

NASA DATA:

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	ARCS-228	6		NASA DAT BASELII NI]				
SUBSYSTEM: MDAC ID: ITEM: L5D, R5R, R5D	ARCS 2286 L/R CHAMI	BER PRES	THRUS	rers L5L,						
LEAD ANALYST: D. HARTMAN										
ASSESSMENT:										
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM										
		A	В	С		-				
NASA [/ IOA [3 /	3] [:] [P] []	[]	[] *]				
COMPARE [N /	и ј [1	и] []	[]	[]				
RECOMMENDATION	s: (If di	fferent	from NAS	A)						
[3 /	2R] [P] [P]	[P]	[(ADD/D					
* CIL RETENTIO	N RATIONALE	: (If ap	plicable	ADEQUAT INADEQUAT	-]				
REDUNDANCY MAN OPERATIONS. N PRIMARY CHAMBE	REMARKS: REDUNDANCY MANAGEMENT MAY FAIL JETS. THIS MAY AFFECT MISSION									

SUBSYSTEM MANAGER STATED THAT THE CHAMBER PRESSURE SENSOR WAS PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2287 NONE		NASA DATA: BASELINE NEW							
	ARCS 2287 L/R CHAMBER F	PRESSURE (Pc)	SENSOR, TH	HRUSTERS L5L,						
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:	ASSESSMENT:									
CRITICALI FLIGHT HDW/FUN	=	DANCY SCREENS	s c	CIL ITEM						
IIDW/ I OI	ic a	В								
NASA [/ IOA [3 /1R] [p]	[] [[P]	P]	[] *						
COMPARE [N /N] [N]	[N] [и ј	[]						
RECOMMENDATIONS:	(If differe	nt from NASA)								
[3 /2R] [P]	[P] [P] (AD	[] DD/DELETE)						
* CIL RETENTION F	RATIONALE: (If	applicable)								
			ADEQUATE ADEQUATE							
REMARKS: REDUNDANCY MANAGE OPERATIONS. NOTE PRIMARY CHAMBER F VERNIER CHAMBER F	EXISTING NOTES SENSO	JETS. THIS ASA FMEA LIST RS. IOA RECOM	MAY AFFECT ED CONTAIN MENDS INCI	MISSION S ONLY						

SUBSYSTEM MANAGER STATED THAT THE CHAMBER PRESSURE SENSOR WAS PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2288 NONE		NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM: L5D, R5R, R5D	ARCS 2288 L/R CHAMBER	PRESSURE (PC)	SENSOR, TH	RUSTERS L5L,				
LEAD ANALYST:	D. HARTMAN		·					
ASSESSMENT:								
CRITICAL	.TTY REI	DUNDANCY SCREEN	S	CIL ITEM				
FLIGH HDW/FU	IT	В	С					
NASA [/ IOA [3 /1]] [R] [P] [] [] [P] [] P]	[] *				
COMPARE [N /N	j [N] [N]	[N]	[]				
RECOMMENDATIONS	: (If diff	erent from NAS	A)					
[3 /2			rpl	[] ADD/DELETE)				
* CIL RETENTION	RATIONALE:) ADEQUATE INADEQUATE	[]				
REMARKS: REDUNDANCY MANAGEMENT MAY FAIL JETS. THIS MAY AFFECT MISSION OPERATIONS. NOTE: EXISTING NASA FMEA LISTED CONTAINS ONLY PRIMARY CHAMBER PRESSURE SENSORS. IOA RECOMMENDS INCLUSION OF VERNIER CHAMBER PRESSURE SENSORS INTO A FMEA.								

SUBSYSTEM MANAGER STATED THAT THE CHAMBER PRESSURE SENSOR WAS PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSM ASSESSM NASA FM	LENT .	ID:	ARC	S-228	Q	4-1		NASA BASE	DATA: LINE [NEW [
SUBSYST MDAC ID ITEM: L2U, L4	:		ARC 228 L/R L3D,	СНУМ .	BER R1U,	PRESS	URE R41	(Pc) SENSON	-	•	L1U,
LEAD AN								·	,		
ASSESSM	ENT:										
	r	TITCH	ITY IT NC			'NDANC'			CI IEI		
Waca					-	_		С			
NASA IOA	[3	/1R /3]	[P]	[F	,]	[P] []]] *	
COMPARE	[/N]	[N]	[N]	[N]	[]	
RECOMMEN	DATI	ons:	(I	f dif	fere	ent fr	om 1	NASA)			
	[/]	ί]	[]	[]	[(ADD/D		:)
* CIL RE	TENT]	ON F	RATIO	NALE:	/T f	annl	iask	-1 - \	,		,
REMARKS: IOA AGREI					\	. wppt.	LCar	ADEQUAT INADEQUAT	re []	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM: MDAC ID: ITEM: L2U, L4U, L2D, L3	ARCS-2290 03-2A-2213 ARCS 2290 L/R CHAMBE	R PRESSURE (PC) SENSOR, TH	[] [X] IRUSTERS L1U,
			•	
LEAD ANALYST:	D. HARIMAN			
ASSESSMENT:				
CRITICAL	TY RE	DUNDANCY SCREE	ns	CIL
FLIGHT	IC A	В	С	ITEM
			(D)	r 1 +
NASA [3 /1R IOA [3 /1R] [P	[P]] [P]	[P]	[] *
COMPARE [/] [] []	[]	[]
RECOMMENDATIONS:	(If diff	erent from NAS	i A)	
		1 []	r 1	[] DD/DELETE)
* CIL RETENTION TREMARKS:	RATIONALE:	(If applicable	e) ADEQUATE INADEQUATE	[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-22 03-2A-2	/29/88 NASA DATA: RCS-2291 BASELINE [] B-2A-221314-1 NEW [X]								
SUBSYSTEM: ARCS MDAC ID: 2291 ITEM: L/R CHAMBER PRESSURE (Pc) SENSOR, THRUSTERS L1U, L2U, L4U, L2D, L3D, L4D, R1U, R2U, R4U, R2D, R3D, R4D LEAD ANALYST: D HAPTMAN										
LEAD ANALYST: D. HARTMAN										
ASSESSMENT:										
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT TTEM										
	NC	A	В	С	ITEM					
NASA [3 /1R IOA [3 /1R] [P] [P] P]	[P] [P]	[] *					
COMPARE [/] [] [1		[]					
RECOMMENDATIONS:	(If di	ifferent	from NAS	A)						
[/] [] []		[DD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS: NO DIFFERENCES. (IOA FAILURE SAME AS ARCS-2289).										

ASSESSMEN ASSESSMEN NASA FME	T I	D:	1/29/ ARCS- 03-2	-2292	315-	1		N	BASELI N		x]	
SUBSYSTEM MDAC ID: ITEM: L3A, R1A			ARCS 2292 L/R (ox or	FU	SENSOF	THRU	ISTER	L1A			
LEAD ANA	LYSI	r:	D. H	ARTMA	N							
ASSESSME	T:											
		CICAL:		R	EDUN	IDANCY	SCF	REENS			CL CEM	
	_	FLIGHT OW/FU		A		В		(2			
NASA IOA	[:	3 /1R 3 /3]	[P]	[P]	[]	P]	[]	*
COMPARE	[/N	1	[N	.]	[N	3	[]	и]	(3	
RECOMMEN	DAT:	ions:	(I	f dif	fer	ent fr	om 1	NASA)				
	[/]	[]	[]	[]		DELI /DELI	ETE)
* CIL RE	TEN	TION	RATIO	NALE:	(I	f appl	ica		ADEQUA ADEQUA]	
REMARKS:	ES	WITH	NASA	FMEA.	,	•						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2293 03-2A-221315-	2	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID:	ARCS 2293 L/R OX OR FU		EMP SENSOR	THRUSTER L1A,				
LEAD ANALYST:	D. HARTMAN							
ASSESSMENT:								
CRITICAL: FLIGHT HDW/FUR	r	DANCY SCRE B	ENS C	CIL ITEM				
NASA [3 /1R IOA [3 /1R] [P]	[P] [P]	[P] [P]	[] *				
COMPARE [/] []	[]	[]	[]				
RECOMMENDATIONS:	(If differe	nt from NA	SA)					
[/] []	[]		[] DD/DELETE)				
* CIL RETENTION R	ATIONALE: (If	applicable	e) ADEQUATE INADEQUATE	[]				
NO DIFFERENCES.								

ASSESSME ASSESSME NASA FME	NT : NT : A #	DATE: ID: :	1/29 ARCS 03-2	/88 -2294 A-221	315-	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTE MDAC ID: ITEM: L1L, L2I			2294 L/R	OX OF	FU 2R,	INJEC R3R,	TOR R4R	TEMP	SENSOR,	THRU	JSTERS	
LEAD ANA	LYS'	T:	D. H	ARTMA	N							
ASSESSME	NT:											
]	TICALI FLIGHT DW/FUN	r			DANCY B		EENS C	!	CII		
NASA IOA	[:	3 /1R 3 /3]	[F]	[P]	[P)]	[] *	
COMPARE	[/N]	[N]	[N]	[N	1	[1	
RECOMMEN	DAT:	ions:	(II	f dif	fere	nt fr	om N	ASA)				
	[/]	[] .	[]	[] (A	[.DD/I] DELETE)	
* CIL RE	TENT	rion f	RATIO	VALE:	(If	appl:	icab	A	DEQUATE DEQUATE	[]	

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT DA NT ID A #:	TE:	1/2 ARC 03-	9/88 S-22: 2A-2:	95 213	315-	-2					ASA DAT BASELIN NE		x]
SUBSYSTE MDAC ID: ITEM: L1L, L2L	M:		229 L/R	S 5 OX (or	FU	INJ	EC1	ror		P 8	ENSOR,	THE	RUSTERS
LEAD ANA	LYST:		D.	HART	MAN	1								
ASSESSME	NT:													
		IGH	C				NDAN(CY B	SC	REENS	s c			IL CEM
WACA		•					r	Ð	1	r	Đ	3	r	1 *
NASA IOA	[3	/1R]	[P]	[P]	[P	j	[[]
COMPARE	[/]	[]	ĺ]	[]	[]
RECOMMEN	DATIC	ns:	(If d	if	fer	ent	fro	om i	nasa))			
	[/]]	[]	[]] (ADD,] /DELETE
* CIL RE	TENTI	ON I	RATI	ONAL	E:	(I:	f ap	pl:	ica			DEQUATI DEQUATI	_]

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	Τ ID:	SA DATA ASELIN NE	A: E [
SUBSYSTEM MDAC ID: ITEM: L5L, L5D,		ARCS 2296 L/R OX	OR	FU IN	JEC?	OR T	EMP S	SENSOR,	THRUS	rers			
LEAD ANAI	LYST:	D. HAF	(AMT)	N									
	ASSESSMENT: CRITICALITY REDUNDANCY SCREENS FLIGHT CIL ITEM												
•	FI.TG	HT UNC			В		c		1121				
NASA	[/]	[]	[]	[]	[] *			
COMPARE				1]			[]			
RECOMMEN	NDATIONS	s: (If	di	fferer	nt fi	rom N	IASA)						
		3]]	(ADD/D] ELETE)			
* CIL R	ETENTIO	N RATIO	NALE	: (If	app	lical	ole) IN	ADEQUAT ADEQUAT	re (re (]			
REMARKS: REDUNDANCY MANAGEMENT MAY FAIL JETS. THIS MAY EFFECT MISSION OPERATIONS. NOTE: EXISTING NASA FMEA CONTAINS ONLY THE PRIMARY TEMPERATURE SENSORS. IOA RECOMMENDS THE INCLUSION OF VERNIER SENSOR INTO A FMEA.													
SUBSYST OF THE	rem man? Vernier	AGER STA R THRUST	TED ER 1	THAT ASSEMI BE IN	THE BLY. CORP	TEMP FOF ORATE	ERATO	JRE SEN PLETENE TO A FM	SORS W SS, IO	ERE PART A			

RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

	ARCS-2297	NASA DATA: BASELINE [] NEW []				
MDAC ID:	ARCS 2297 L/R OX OR FU INJECTOR TEMP 5D	•				
LEAD ANALYST:	D. HARTMAN					
ASSESSMENT:						
CRITICALI FLIGHT HDW/FUN	REDUNDANCY SCREENS C A B	ITEM				
NASA [/ IOA [3 /2R] [] [] [F] [F] []*				
COMPARE [N /N] [и] [и] [и	[]				
RECOMMENDATIONS:	(If different from NASA)					
[3 /2R]] [P] [P] [P] [] (ADD/DELETE)				
* CIL RETENTION RA	ATIONALE: (If applicable)	(25) BELETE)				
REMARKS: REDUNDANCY MANAGEM OPERATIONS NOTE:	AI INAI ENT MAY FAIL JETS. THIS MA EXISTING NASA FMEA CONTAI	DEQUATE [] DEQUATE [] AY EFFECT MISSION INS ONLY THE PRIMARY USION OF VERNIER				
SUBSYSTEM MANAGER SOF THE VERNIER THRU	STATED THAT THE TEMPERATURE USTER ASSEMBLY. FOR COMPLE	SENSORS WERE PART				

OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA

RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSME ASSESSME NASA FME	NT NT A #	DA' ID :	TE:	1/2 ARG 03	29/8 CS-2 -2A-	8 29 22	8 13	15-1	L				_	SA DA	INE			
SUBSYSTE MDAC ID: ITEM: L1U, L2U				225 T./1	98 P OX	, c	R L4	FU I	INJ R1U	ECI	ror T R2U,	EMI R4U) S J,	SENSO R2D,	R, ' R3	THRU D, F	STI 14D	ERS
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	•										
ASSESSME	NT:																	
		FL	IGHT	ľ				DUNI	OAN	CY	SCRE	ENS	c			CII	-	
NASA IOA]	[P]	[P]		[]	*
COMPARE	[/N]		[N]	[N	1	[N	3		[]	
RECOMMEN	NDA'I	ric	NS:		(If	d :	if	fere	nt	fr	om NA	ASA)					
	[/]		[]	[•]	ſ]	(A	[.DD/1) DEL	ETE)
* CIL RI		TI	ON :	RAT	'ION <i>E</i>	ΔL	E:	(If	aŗ	pl	icab]	le) I	A NA	DEQU <i>I</i> DEQU <i>I</i>	ATE ATE	[]	
REMARKS	•																	

IOA AGREES WITH NASA FMEA.

ASSESSM ASSESSM NASA FM	ENT ENT EA	D #:	ATE: D:	1, Al 03	/29/ RCS- 3-2A	88 22 -2	99 21	315	5-2					asa Base	LINE			
SUBSYST: MDAC ID ITEM: L1U, L2	:			22 L/	299 /R 0	X (OR	FU	J INJ	EC	TOR	TEM	P U,	SENS R2D	OR, , R3	THR	UST R4D	ERS
LEAD AND	ALY	ST	:	D.	НА	RT	MA]	N										
ASSESSMI	ENT	:																
		F	ICAL: LIGH: W/FUI	r						CY B		REEN	s c			CI IT	_	
NASA IOA	[3	/1R /1R]		[P P]	[P P]]	P P]		[]	*
COMPARE	[/]		[]	[]	[]		[]	
RECOMMEN	IDA'	rI(ons:		(If	d:	if	fer	ent	fr	om 1	NASA)					
	[/]		[]	[]	[]	(A	[DD/1	DEL:	ETE)
* CIL RE		NT:	ION F	TA9	'ION	ALI	€:	(I	f ap	pl:	ical			DEQUA		[]	

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-23 05-6KA-	.00		NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2300 DRIVER,				
LEAD ANALYST:					
ASSESSMENT:					
CRITICA	CIL ITEM				
FLIG HDW/F		A	В	С	
NASA [2 /2 IOA [3 /1] R]	[] [P]	[] [P]	[[X] *
COMPARE [N /N]	[N]	[N]	[N]	[и]
RECOMMENDATIONS	: (If	differen	t from NA	SA)	
[/	1	[]	[]	[]	[] ADD/DELETE)
* CIL RETENTION	N RATIONA	ALE: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA AGREES WIT	H NASA FN	MEA.			

ASSESSM ASSESSM NASA FM	ENT]	D:	ARC	9/88 S-230 6 KA -2		-2	٠	NASA DATA: BASELINE [] NEW [X]					
SUBSYST MDAC ID ITEM:			ARCS 2301 DRIV	-	HYBF	RID				•			
LEAD AN	ALYST	':	D. E	IARTM	AN								
ASSESSMI	ENT:												
	F	LIGH		I	REDU	NDANC	sc:	REENS		CIL			
	HD	W/FU	NC	2	A	F	3	С	J	TEM			
NASA IOA	[3	/3 /1R]	[[F)	[[F	,]	[] [P]	[] * X]			
COMPARE	[/N]	[N]	[N]	[N]		N]			
RECOMMEN	DATIC	ons:	(I:	f dif	fere	ent fr	om N	IASA)					
		/	-	[]	_	J	[]] /DELETE)			
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REMARKS: IOA AGRE	ES WI	TH N	ASA F	MEA.				ADEQUA INADEQUA	TE []			

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IOA AGREES WITH NASA FMEA.

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* CIL RE	TEI	VT:	ION	RATI	ONALE:	(I:	f app	01 i	icat	·	ADEQU ADEQU]	
REMARKS: IOA AGRE	ES	W)	ITH	NASA	FMEA.								L		J	

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	re:	05-6	KA-2099) - 1			N	ASA DA' BASELI N	TA: NE [EW [X]
SUBSYSTEM MDAC ID:				ARCS 2324 RES		5.1K	1/4W	i				
LEAD ANA	LYS	T:		D. 1	HARTMAN							
ASSESSME	NT:							CCDI	FFNS		CII	ı
	CR1		CAL	ITY T	RE	ומטם	DANCY	SCR			ITE	M
	I		J/FU		A		В		1	С		
NASA IOA			/3 /3]	[[]	[[]	[]	[] *
COMPARE	[/]	ſ	3	[1	Ĺ	1	[]
RECOMME	NDA	TI	ons	:	(If dif	fere	nt fi	om N	IASA)			
RECOMM]	ί]	ί]	[]	[(ADD/	DELETE)
* CIL R	ETI	I'N	MOI	RAT	IONALE:	(11	f app	lical	ble) I	ADEQUA NADEQUA	ATE []
REMARKS NO DIFF	: ER	enc	CES.	•								

ASSESSM ASSESSM NASA FM SUBSYST MDAC ID ITEM:	EA EM:	* *	1D:	ARC 05- ARC 232 RES	S-23; 6KA-; S 5	25 2099 R, 5.	-1 1K 1/	′4W		NAS. BA:	A DATA: SELINE NEW		
ASSESSMI	ENT	':											
		F	LIGI			REDU	NDANC	Y SC	REENS			IL	
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	HDW/FUNC A B C ASA [3/3] [] [] [] *												
COMPARE	[/]	[]	[]	[]	[.]	
RECOMMEN	DAI	'IC	ns:	(II	f dif	fere	nt fr	om N	ASA)				
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REMARKS: A SHORT A	CRO	ารง	5 A	תום		_			INAI	DEQUA DEQUA	ATE []	
A SHORT A IOA RECOM FMEA.	MEN	NDS	S RE	MOVAL	YPE I OF 1	RESIS THE "	STOR 1 SHORT	S NC	T A (CREDI MOL	BLE FAI	LURE. THIS	

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-2326 NASA FMEA #: 05-6KA-2099-1												DATA: LINE NEW]	
SUBSYSTE MDAC ID: ITEM:	M:			ARC 232 RES	6	R,	5.1H	< 1/4W	i						
LEAD ANA	LYS	T:	:	D.	HART	'MA	N								
ASSESSME	NT:	3													
	CR]			YTI		R	EDUNI	DANCY	SCR	EENS			CIL		
	I	-				A		В		C	2				
NASA IOA	FLIGHT HDW/FUNC [3 /3] [3 /3]					[]	[[]	[]		[] *	
COMPARE	[/]		[]	[]	[]		[]	
RECOMMEN	IDA'	ΓI	ons:	:	(If	dif	fere	nt fr	om N	ASA)					
	[/	1		[].	[]	[]	(A	[DD/[] ELETE)
* CIL RI	ETE	NT	ION	RAT	IONA	LE:	(If	appl	icab		ADEQ ^Ţ ADEQ ^Ţ	JATE JATE	[]	
REMARKS		NC	ES.												

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	! [! ! #:	DATE D:	ARC 05-	9/88 S-232 6KA-2	7 099 -	1				DATA SELINE NEW] 3] x]	
SUBSYSTI MDAC ID: ITEM:	EM:			ARC 232	:s 7		1K 1/4						·	
LEAD AND	ALY	ST	:	D.	HARTM	AN								
ASSESSMI	ENT	:												
	CR	TI T	ICA:	LITY	I	NDANCY	sc	REENS			CI	L		
												IT	EM	
NASA [3 /3] [] [] [] IOA [3 /3] [] []												[] :	*
COMPARE	[/]	[]	[]	[]		נ]	
RECOMMEN	DA'	ric	ONS:	(1	f dif	fere	ent fro	om 1	NASA)					
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REMARKS:									INA	DEQU	ATE ATE	-]	
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ISSUE RES	SOL	VE UR	D O	N 1/2 ODE T	0/88 <i>1</i> O BE 1	AT M	EETING VED).	WI	TH SU	BSYS	TEM M	ANA	.GER	

ASSESSMEI ASSESSMEI NASA FME	TI.	ID:	ARCS	-2328	9-1					DATA: LINE NEW	[
SUBSYSTEM MDAC ID:			ARCS 2328 RESI		5.1	K 1/4	W						
LEAD ANA	LYS	r:	D. H	ARTMAN	ī								
ASSESSME	NT:												
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NASA IOA	[3 /3 3 /3]	[]	[]	[]		[]	*
COMPARE	[/	3	[]	. []	[]		[]	
RECOMMEN	DAT	ions:	(1	f dif:	fere	nt fr	om N	IASA)					
	ί	/	1 .	[]	[]	[]	(A	[DD/I] DELE	ETE)
* CIL RE		TION	RATIO	ONALE:	(If	app]	licab	7	ADEQU ADEQU	JATE JATE	[]	
NO DIFFE		CES.											

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SUBSYSTI MDAC ID: ITEM:	EM:			ARC 232	CS 29		lK 1/4							
LEAD ANA	LY	ST	':	D.	HARTM	AN								
ASSESSME	ENT	:												
		F	LIG	HT	:		NDANCY B	SCI	REENS			CI		
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NASA IOA	[3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	-[]	(1	[]		[]	
RECOMMEN	IDA'	TI	ons	: (If di	ffere	ent fro	om N	IASA)					
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REMARKS: A SHORT	AC1	RO:	ss i	A RT.R	TVDE:	DFCT	'ፍጥሰው ነ	'C M			ATE ATE			
IOA RECO	MM	EN	DS I	REMOV	AL OF	THE	"SHORT	in E	AILUR	E MO	DE FF	ROM	THI	s.
ISSUE RE (SHORT F	SOI AII	LVI	ED (ON 1/ MODE	20/88 TO BE	AT M	EETING VED).	WI	TH SU	BSYS	TEM M	IANA	GER	

ASSESSME ASSESSME NASA FME	NT	ID		ARC	9/88 S-2330 6KA-209	9-1			N		DATA LINE NEW			
SUBSYSTE MDAC ID:	M:			ARC 233 RES		5.1K	1/4W	ī						
LEAD ANA	LYS	T:		D.	HARTMAN									
ASSESSME	NT:													
	CR1		CAL		RE	DUNE	ANCY	SCR	EENS			CII		
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NASA IOA	[3	/3 /3]	[]	[[]	[[]		[]	*
COMPARE	[/]	[1	[]	[]		[]	
RECOMMEN	IDA!	rIC	ons:	ì	(If dif	fere	nt fr	om 1	(ASA					
	C		/]	[)	[]	[]	(Z	[\DD/1	DEL	ETE)
* CIL R	ETE:	NT:	ION	RAT	IONALE:	(If	appl	ical			UATE UATE]	
DEMARKS	•											-		

NO DIFFERENCES.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-2331 NASA FMEA #: 05-6KA-2099-1 SUBSYSTEM: ARCS NASA DATA: BASELINE [] NEW [X]													
SUBSYST MDAC ID ITEM:	LM:			AR 23	CS								
LEAD AN	ALY	ST	:	D.	HARTM	AN							
ASSESSM	ENT	:											
	CR	IT F	ICAI LIGH	JTY m	1	REDUI	NDANC	Y SCI	REENS		CI		
					i	A	. 1	3	(C	IT	EM	
NASA IOA]	3	/3 /3]	[]	[]	Ĺ]	[] *]	
COMPARE							ĵ.		[]	[]	
RECOMMEN	IDA:	ric	ons:	(If dif	fere	nt fr	om N	ASA)				
			/		[_			[[ADD/E] DELETE)	,
* CIL RE		TI	ON]	RATI	ONALE:	(If	appl	icab	A	DEQUATE	[]	
A SHORT	ACE	ROS	S A S RI	RLR EMOV	TYPE AL OF	RESI. THE	STOR "SHOR	IS NO	OT A AILUR	CREDIBLE E MODE F	FAI	LURE. THIS	

ISSUE RESOLVED ON 1/20/88 AT MEETING WITH SUBSYSTEM MANAGER (SHORT FAILURE MODE TO BE REMOVED).

ASSESSME ASSESSME NASA FME	TN	IL		ARC	9/88 S-2332 6KA-209	9-1				ASA D BASEL				
SUBSYSTE MDAC ID:	M:			ARC 233 RES		5.1	K 1/4	W						
LEAD ANA	LYS	T	:	D.	HARTMAN	1								
ASSESSME	NT:	:												
	CR]			LITY	RI	EDUN	DANCY	SCR	EENS			CIL		
	I			HT	A		В		(2				
NASA IOA	[3	/3	3] 3]	[]	[]	[]		[]	*
COMPARE	[/]	ĺ	3	[]	[]		[]	
RECOMMEN	IDA'	TI	ONS	5:	(If dif	fere	ent fr	om N	ASA)					
	[/]	Ţ]	[]	[]	(A	[DD/1	DEL.	ETE)
* CIL R		ľΥ	'IO	N RAT	ionale:	(11	f app]	licab		ADEQU ADEQU]	
REMARKS	:													

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-2333 VASA FMEA #: 05-6KA-2099-1							-1		N.	ASA BASE	LINE] 3) x]	
SUBSYST MDAC ID ITEM:	EM: :				23		, 5.	1K 1/4	W					_	
LEAD AN	ALY	SI	:		D.	HARTM	AN								
ASSESSMI	ENT	:													
		F	L.	IGH	T	1		ndancy B		CREENS C			CI IT	L EM	
NASA IOA	[3	/	/3 /3]]]]]	[]]]	*
COMPARE						[]	ſ		. []		[]	
RECOMMEN	IDA!	ri(ON	īs:	(If dif	fere	ent fr	om	NASA)					
	[/	•]	[]	£.]	[] .	(AI	[DD/I] DELE	TE)
* CIL RE	TEN	T]	ΣC	N I	RATI	ONALE:	(I1	f appli	ca						·
REMARKS:										INAD		TE	ĺ		
A SHORT IOA RECO FMEA.	ACF MME	ROS ENI	SS	A RI	RLR MOV	TYPE AL OF	RESI THE	STOR 1	S	NOT A C FAILURE	REDII MODI	BLE E FR	FAI OM	LUR	E. S
ISSUE RE (SHORT F	SOI AII	VE UR	D E	ON MC	1/: DE '	20/88 . TO BE	AT M REMO	EETING VED).	W:	ITH SUBS	SYSTI	em m	ANA	GER	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2334		NASA DATA: BASELINE NEW	[]
	ARCS 2334 THERMOSTAT	, PRIMARY THRUST	ERS, +X AX	IS
LEAD ANALYST:	D. HARTMAN	1		
ASSESSMENT:				
CRITICAL FLIGH		EDUNDANCY SCREENS		CIL ITEM
HDW/FU		В	С	
NASA [/ IOA [3 /1R] [] [] [P]		[x] *
COMPARE [N /N] [N] [N] [N]	[N]
RECOMMENDATIONS:	(If dif	ferent from NASA)		
[3 /2F	[P] [F] [[A] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If applicable)	ADEQUATE NADEQUATE	[]
	T	ZE. IF JET IS RI IG. THIS MAY AFFI THRUSTER THERMOS	EQUIRED, OF	RBITER ORIENT

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2335 NONE		NASA DA BASELI N			
	ARCS 2335 THERMOSTAT,	PRIMARY TH	RUSTERS, +X	AXIS		
LEAD ANALYST:	D. HARTMAN					
ASSESSMENT:						
CRITICAL: FLIGHT		NDANCY SCR	EENS	CIL ITEM		
HDW/FU	NC A	В	С	111314		
NASA [/ IOA [2 /1R] []]]	[[] [P]	[
COMPARE [N /N] [N]	[N]	[N]	[N]		
RECOMMENDATIONS:	(If differe	ent from NA	ASA)			
[3 /3] []	[]		[] (ADD/DELETE)		
* CIL RETENTION R	RATIONALE: (If	applicabl	ADEQUATE			
REMARKS: NO EFFECT. IOA R INCORPORATED INTO	ECOMMENDS THE	PRIMARY I	INADEQUATE THRUSTER THE			

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT ID: ARCS-2336 BAS NASA FMEA #: NONE							SA DATA: ASELINE NEW	[
SUBSYSTEM: MDAC ID: ITEM:		ARCS 2336 THERMOS	TAT	, PRIM	AR	THRU	ST	ER	s, y AXI	s			
LEAD ANALYS	ST:	D. HAR	TMAN	Ī									
ASSESSMENT:	•												
CRI		TY.	RE	DUNDAN	CY	SCREE	ENS			CI			
·	FLIGHT HDW/FUN		A		В			С					
NASA [IOA [/ 3 /1R]	[[P] [P]	[P]	[x]	*	
COMPARE [N /N	1	(N] [N]	£	N]	[N]		
RECOMMENDA!	TIONS:	(If	diff	ferent	fr	om NAS	SA)						
[3 /2R	1 .	[P] (F	3	[P			A] DEL	ETE)	
* CIL RETE	NTION 1	RATIONA	LE:	(If ag	ppl	icable		AD IAD	EQUATE EQUATE	[]		
REMARKS: PROPELLANT ITSELF TOW	IN JE'	T MAY F LAR HEA	REE?	ZE. II	IS	MAY A	RI FFI	EQU ECI	IRED, O	RBI N O	TER PER	ATTON	5.

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

IOA RECOMMENDS THE PRIMARY THRUSTER THERMOSTATS BE INCORPORATED

INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2337		NASA DA' BASELII NI	
	ARCS 2337 THERMOSTAT, F	PRIMARY THI	RUSTERS, Y A	AXIS
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCRE	EENS	CIL ITEM
HDW/FU	NC A	В	С	1124
NASA [/ IOA [2 /1R] [p]	[] [F]	[] [P]	[] * [x]
COMPARE [N /N] []]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differe	nt from NA	SA)	
[3 /3] []	[]		[] ADD/DELETE)
* CIL RETENTION R	RATIONALE: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: NO EFFECT. IOA R INCORPORATED INTO	RECOMMENDS THE	PRIMARY T	_	• •

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2338 NONE		NASA DATA BASELINI NEV	E []
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2338 THERMOSTAT, F	PRIMARY THR	USTERS, Z A	xis
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				att.
CRITICAL		NDANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [/ IOA [3 /1]] [] R] [P]	[] [P]	[[x] *
COMPARE [N /N] [N]	[и]	[и]	[и]
RECOMMENDATIONS	: (If differ	ent from N	ASA)	
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* CIL RETENTION	RATIONALE: (]	[f applicab	le) ADEQUAT INADEQUAT	E [] E []
REMARKS: PROPELLANT IN CONTROL OF THE PROPERTY	ET MAY FREEZE OLAR HEATING. THE PRIMARY T	. IF JET I THIS MAY HRUSTER THE	S REQUIRED, AFFECT MISS RMOSTATS BE	ORBITER ORIENT ION OPERATIONS. INCORPORATED

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2339 NONE	NASA DATA: BASELINE [] NEW []					
SUBSYSTEM: MDAC ID: ITEM: LEAD ANALYST:	ARCS 2339 THERMOSTAT, D. HARTMAN	PRIMARY THR	USTERS, Z AX	•			
ASSESSMENT:							
THERE		NDANCY SCRE	Ens	CIL			
HDW/FUN	C A	В	С	ITEM			
NASA [/ IOA [2 /1R] [p]	[] [F]	[] [P]	[] * [x]			
COMPARE [N /N		[N]	_	[N]			
RECOMMENDATIONS:	(If differ	ent from NAS	A)				
[3 /3	•		(AD	[D/DELETE)			
* CIL RETENTION RA	ATIONALE: (I1	applicable)	·			
REMARKS:		;	ADEQUATE INADEQUATE	[]			
NO EFFECT. IOA RE INCORPORATED INTO	COMMENDS THE A FMEA.	PRIMARY THI	RUSTER THERMO	STATS BE			

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2340 NONE			ASA DATA: BASELINE NEW	[]	
	ARCS 2340 THERMOSTAT	r, VERNIER	THRUSTE	RS, ALL A	XES	
LEAD ANALYST:	D. HARTMAN	1				
ASSESSMENT:						
CRITICAL		EDUNDANCY	SCREENS		CIL ITEM	
FLIGH HDW/FU	NC A	В	С		11111	
NASA [/ IOA [2 /2] [] [] []	[x] *	
COMPARE [N /N] [] [N] [N]	[N]	
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[2 /2] [] [] [] (AI	[A] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If appl:	A	DEQUATE DEQUATE		
REMARKS: PROPELLANT IN JEEFFECT MISSION OF INCORPORATED IN THE PROPERTY OF T	PERATIONS.		EDUNDANCY OMMENDS T	PROVIDE HIS FAIL	D. THIS I	MAY

SUBSYSTEM MANAGER STATED THAT THE THERMOSTATS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-2341 NONE		NASA DATA BASELINE NEW	[]
	ARCS 2341 THERMOSTAT, VE	RNIER THRUS	TERS, ALL A	AXES
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICALI FLIGHT		ANCY SCREEN	S	CIL ITEM
HDW/FUN	IC A	В	С	TIM
NASA [/ IOA [2 /1R] []]	[] [[F]	p]	[x] *
COMPARE [N /N] [N]	[N]	n j	[N]
RECOMMENDATIONS:	(If different	from NASA)	r	
[3 /3] []	[] [] (AD	[] D/DELETE)
* CIL RETENTION R	ATIONALE: (If a		ADEQUATE	[]
REMARKS: NO EFFECT. IOA R FMEA.	ECOMMENDS THIS		ADEQUATE	[j

SUBSYSTEM MANAGER STATED THAT THE THERMOSTATS WERE PART OF THE VERNIER THRUSTER ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMEN ASSESSMEN NASA FMEA	T	ID		ARC	RCS-2342 RCS RCS 342 IANIFOLD 1, JETS HEATER CONTROL]	
SUBSYSTEM MDAC ID: ITEM:				224	10) 1	, i	JETS	HE	ATE	R CC	ГИC	ROL	SWIT	гсн		
LEAD ANAI	YS	T:															
ASSESSMEN	IT:															_	
C	CRI					RE	DU	NDAN	CY	SCF	REENS	3			CII		
	CRITICALITY FLIGHT HDW/FUNC								В			С					
NASA IOA	[3	/ /1R]	[P]	[P]	[[P]		[]	*
COMPARE	[N	/N]	[N]	[N]	[N]		[]	
RECOMMEN	DA!	TI(ons:		(If d	if:	fer	ent	fr	om 1	NASA)					
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* CIL RE	TE	NT	ION	RAT	'IONAI	E:	(1	[far	pl	ica				JATE JATE	[]	
REMARKS: AFT MANI SEE ASSE	FO	LD	1 3 NT 3	JET IDs	HEATE ARCS	R 12	CO1	NTRO 6X-1	L S 230	WIT OX.	CH 9	F	E-A	NALY2	ZED	BY	IOA.

ASSESSM ASSESSM NASA FM	D:		CS-2343	3					DATA ELINE NEW	Ε]	<u> </u>		
SUBSYST MDAC ID ITEM:				ARC 234 MAN	-	1,	JETS :	HEAT:	ER CO	NTRO:	L SWI	гсн	Ī	
LEAD AN	ALY	ST	:											
ASSESSM	ENT	:												
					R	EDU	NDANC	Y SCI	REENS			CI	_	
		RITICALIT FLIGHT HDW/FUNC			A		I	3	(C		IT	em	
NASA IOA	[2	/ /2]	[]	[]	[]		[]] X]	*
COMPARE	[N	/N]	[]	ſ]	[]		[]	4]	
RECOMMEN	IDA'I	ric	ons:	(If dif	fer	ent fr	om N	ASA)					
	[/]		•	C]	(AD	[D/D) ELF	ETE)
* CIL RE	TEN	TI	ON :	RATIO	NALE:	(I1	fappl	icab	le)					
REMARKS:									INA		ATE	-]	
AFT MANI SEE ASSE	FOL SSM	D En	1 J1 T II	ET HE Os Af	ATER C	INO:	ROL SI	WITC	H 9 R	E-ANZ	ALYZEI	ЭВ	Y I	OA.

ASSESSMEN ASSESSMEN NASA FME	NT	IL		ARC	5-2344				Ň	IASA D BASEI]	
SUBSYSTEMDAC ID: ITEM: CONTACTS		, 2		ARC: 234 MAN		, J	ETS HE	ATE	R COI	ITROL	SWITC	эн (OPE	N
LEAD ANA	LYS	ST	:											
ASSESSME	NT	:												
	CR:			ITY	RE	DUN	DANCY	SCR	EENS			CIL		
]		LIGH W/FU	NC NC	A		В		(С	•			
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COMPARE	(N	/N]	(]	[]	[]		[И	.]	
RECOMMEN	IDA	TI	ons:	(If diff	ere	ent fr	om N	IASA)					
	[/)			ſ			3	(AD	[D/D) ELI	ETE)
* CIL RI	ETE	NT	ION	RATI	ONALE:	(II	f appl	icak		ADEQU ADEQU		[]	
REMARKS: AFT MAND SEE ASSI	FO	LD	1 3 NT 3	TET H	HEATER (CONT 2962	rol s K-1230	WITO	СН 9	RE-AN	ALYZE	D E	3Y :	IOA.

ASSESSMI ASSESSMI NASA FMI	ENT	' I		ARCS-	234	45							ATA: INE NEW]
SUBSYSTIMDAC ID: ITEM: CONTACTS	•			ARCS 2345 MANIF	OLI) 1,	, JET	S H	EATER	С	ONT	ROL	SWIT	сн с	PEN
LEAD AND	ALY	ST	:												
ASSESSMI	ENT	:													
		F	ICAL: LIGH: W/FUI	_		REI A	DUNDA	NCY B	SCRE	EN	s c			CIL TEM	1
NASA IOA	[3	/ /1R]]) P]		[[P]	[P]	[] *
COMPARE	[N	/N]	ĺ	N]		[N]	[N]	[]
RECOMMEN	IDA!	ric	ONS:	(If	di	ffe	rent	fro	om NAS	SA))				
	[/]	[]	1	•]	[]	[ADD] LETE;
* CIL RE	TEI	NT)	ON F	RATIONA	LE	: (If ap	pli	cable			EQUAT]
AFT MANI SEE ASSE	FOI	LD ÆN	1 JE	T HEAT	ER	CO	NTROI	SW	TTCH	9	RE-	-ANAI	LYZED	ву	IOA.

ASSESSME ASSESSME NASA FME	II		ARCS-	2346				N	BASEI		_]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		, 4	l	ARCS 2346 MANIF	OLD	1, J	ets h	EATE	R CON	ITROL	SWIT	CH	OPEN
LEAD ANA	LY	ST	:										
ASSESSME	NT	:											
				R	EDUN	DANCY	SCR	EENS			CII		
	CRITICALITY FLIGHT HDW/FUNC						В	3	(2			
NASA IOA	[3	/]	[]	[[]	[]		[] *]
COMPARE	[N	/N	1	[1	[]	C]		[]
RECOMMEN	IDA	TI	ons:	(If	dif	fere	nt fr	om N	IASA)				
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* CIL RI	ETE	NT	ION	RATION	IALE:	: (If	appl	licab	4	ADEQU ADEQU		[4	680H]
REMARKS AFT MAN	IFO	LD	1 J	TET HEA	ATER CS 1	CONT 2296X	ROL 9	SWITC	CH 9	RE-AN	ALYZ	ED 1	BY IOA.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	ARCS-	2347	,			1	NASA BASE:		[]
SUBSYSTE MDAC ID: ITEM: CONTACTS	•		ARCS 2347 MANIF	OLD	1, JE	тѕ н	EATER	CON	TROL	SWI	тсн	OPEN
LEAD ANA	LYS	T:										
ASSESSME	ENT:											
		TICAL		R	EDUND	ANCY	SCRE	ENS			CII	_
			-	A		В		c	:		IT	EM
NASA IOA	[FLIGHT HDW/FUNC		[]	[]	[]		[] *
COMPARE	[]	N /N]	[]	[]	[]		[]
RECOMMEN	DAT:	IONS:	(If	dif	feren	t fr	om NA	SA)				
	[/]	[]	[]	[1	(AI	[DD/E] ELETE)
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AFT MANI SEE ASSE	FOLI SSMI	D 1 JE ENT II	T HEAT	ER (CONTRO	OL302	24HSW	I Y CR	E-ANA	LYZE	D B	Y IOA.

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	ARCS-23]		
SUBSYSTEM MDAC ID:	[:	ARCS 2348 MANIFO	LD 2	, JET	rs	HE	ATER	CONT	ROL SWI	гсн			
LEAD ANAI	LEAD ANALYST:												
ASSESSMEN	IT:												
C	RITICAL		RE	DUND	AN(CY	SCREE	NS		CIL			
	FLIGH HDW/FU		A			В		С					
NASA IOA	[/ [3 /1R]	[[P]	[P]	[[P]	[]	*	
COMPARE	[N /N	3	[N	1	[N]	[N]	[]		
RECOMMEN	DATIONS:	(If	dif:	feren	t	fr	om NAS	5A)					
	[/]]	[] (2	[ADD/I) ELF	ETE)	
* CIL RE	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []												
REMARKS: AFT MANI SEE ASSE	FOLD 2	JET HEA' IDs ARC	rer 5 12	CONTI	ROI -12	. s	WITCH 5X.	10	RE-ANAL	YZED	BY	IOA.	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:					CS-2349	•				NASA DA BASELI]
SUBSYST MDAC ID ITEM:				ARC 234 MAN	9	2,	JETS H	EAT)	ER CO	NTROL S	WITC	H	
LEAD AN	ALY	ST	':										
ASSESSM	ENT	':											
FLIGH HDW/FU			IT		EDU:	NDANCY	SCI	REENS			IL TEM		
				INC	A		В		(C	1.	LEM	
NASA IOA	[HDW/FUNC		[]	[]	[]]	x] *]	
COMPARE	[N	/N]	[]	[3	£	1	[N]	}
RECOMMEN	IDA:	ric	ons:	(:	f dif	fere	ent fro	om N	'ASA)				
	[/]	[]	[]	[[(ADD/	DEI	LETE)
* CIL RE	TE	T	ON	RATIO	NALE:	(If	appli	.cab	le)				
REMARKS:									INA	DEQUATI DEQUATI	j]	
AFT MANI SEE ASSE	FOI SSM	IEN	2 J:	ET HE Os Ar	ATER C	ONT	ROL SW	ITC	H 10	RE-ANAI	YZED	BY	IOA.

ASSESSME ASSESSME NASA FME	NT	I		ARCS-	2350				_	ASA D BASEL]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		, :		ARCS 2350 MANIF	OLD	2, J	ets h	EATE	R CON	TROL	SWITC	H OI	PEN
LEAD ANA	LY	ST	:										
ASSESSME	NT	:											
	CR		ICAL LIGH		R	EDUN	DANCY	SCR	EENS			IL PEM	
	1	_	W/FU		A		В		C	!	_		
NASA IOA	[2	/2]] []	[[]	[]	[[X] *]
COMPARE	[N	/N	1	[3	[]	[]	[N]
RECOMMEN	IDA'	ri•	ons:	(If	dif	fere	nt fr	om N	ASA)				
	[/]	[1	[]	[]	(ADD)	/DE] LETE)
* CIL RE		NT	ION	RATION	ALE:	(If	appl	icab	P	DEQUA		:]
REMARKS: AFT MAND SEE ASSI	FO								H 10	RE-AN	ALYZE	D B	Y IOA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2351	NASA DATA: BASELINE [] NEW []	
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1, 2	ARCS 2351 MANIFOLD 2, JETS HEATE	ER CONTROL SWITCH OPEN	
LEAD ANALYST:			
ASSESSMENT:			
CRITICAL FLIGH	T	REENS CIL ITEM	
HDW/FU	NC A B	С	
NASA [/ IOA [3 /1R] [] []] [P] [P]	[] [] * [P]	
COMPARE [N /N] [и] [и]	[N]	
RECOMMENDATIONS:	(If different from N	IASA)	
[/] [] []	[] [] (ADD/DELETE))
* CIL RETENTION	RATIONALE: (If applicab		
REMARKS:		ADEQUATE [] INADEQUATE []	
AFT MANIFOLD 2 J	ET HEATER CONTROL SWITCH Ds ARCS 12301X-12305X.	H 10 RE-ANALYZED BY IO	Α.

ASSESSMENT I ASSESSMENT I NASA FMEA #	ID:	ARCS-2	352					SA DATA: ASELINE NEW	[]			
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 3,	4	ARCS 2352 MANIFO	LD 2	, JET	S HE	ATER	CONT	ROL SWI	rch (PEN			
LEAD ANALYS	T:												
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
	FLIGH IDW/FU		A		В		С						
NASA [IOA [3 /3]	[]	[]	[]	[] *]			
COMPARE [n /n	3	[]	[]	[]	[1			
RECOMMENDAT	rions:	(If	dif	feren	t fr	om NA	SA)						
C	/]	[1	[3	[] (2	[ADD/D] ELETE)			
* CIL RETE	NTION	RATION	ALE:	(If	appl	icabl		DEQUATE DEQUATE	[]			
REMARKS: AFT MANIFO SEE ASSESSI	LD 2 3	JET HEA IDS ARC	TER S 12	CONTR	OL S	WITCH	10	RE-ANAL	YZED	BY IOA.			

ASSESSM ASSESSM NASA FM SUBSYST: MDAC ID ITEM: CONTACT: LEAD AND ASSESSMI	ENTEA EM: : S 3	#:	1D:	ARC ARC 235			JETS H	EATI	ER CO	NASA BASE NTROL	LINI NEV] 3	i OF	 PEN
NOOLOOM	ENT	:												
	CR		ICAI LIGH	ITY m	R	EDU.	NDANCY	SCF	REENS			CI		
	:			NC	A		В		!	С		IT	EM	
NASA IOA	[3	/3]	[]]]]]		[]	*
COMPARE	[N	/N]	[]	[]	[1		[]	
RECOMMEN	IDA:	ri(ons:	(If diff	fere	ent fro	om N	ASA)					
	נ		/]	[]	[]	[]	(A)	[DD/1] DELI	ETE)
* CIL RE	TEN	T]	ION :	RATI	ONALE:	(II	f appli	cab						
REMARKS:										DEQUA]	
AFT MANI SEE ASSE	FOI SSM	ŒN	2 J	ET HI Os Al	EATER C	ONT 01X	ROL SW -12305	ITCI X.	H 10	RE-AN	ALY	ZED	ву	IOA.

ASSESSMEN ASSESSMEN NASA FMEA	T	ID		ARC	:S-23	54	•						SA DA ASELI N		-]	
SUBSYSTEM MDAC ID: ITEM:				ARC 235 MAN	: A	D 3	:, i	JETS	HE	EATE	R CC	ГИC	ROL S	riw	CH		
LEAD ANAI	YS	T:															
ASSESSMEN	T:	;															
CRITICALITY REDUNDANCY SCREENS CIL ITEM																	
	ŀ		JIGH 1/FU			A			В			С					
NASA IOA]	3	/ /1R]	[P]	[[P]	[P]		[]	*
COMPARE	[N	/N]	ſ	N]	[N]	[N]		۱.]	
RECOMMEN	DA'	TI	ons:		(If o	lif	fer	ent	fr	om N	IASA	.)					
	ι		/]]	(]	[]	(A	[.DD/[) ELI	ETE)
* CIL RE	TE	NT	ION	RAT	'IONA	LE:	(I	f ar	pl	ical		n	DEQUA DEQUA		[]	
REMARKS: AFT MANI SEE ASSE	FO SS	LD	3 3 NT 3	ET Ds	HEAT ARCS	ER 12	CON	NTRO 5X-1	ւ s 231	WIT LOX.	CH I	.1	RE-AN	IALY	ZED	BY	IOA.

ASSESSM ASSESSM NASA FM	ENT	ני?	D:	-	:S-235	5				NASA DAT BASELIN NE		•]
SUBSYST MDAC ID ITEM:				ARC 235 MAN	5	3, 3	JETS 1	HEAT]	ER CO	NTROL SW	ITCH	ł	
LEAD AN	ALY	ST	:										
ASSESSM	ENT	:											
		F	LIG			REDUI	NDANC?	SCI	REENS		CI	_	
		HD	W/F	UNC	į	A	F	3	(С	11	EM	
NASA IOA	[2	/ /2]	[]	[]] []	[) x]	*
COMPARE	[N	/N]	[]	[]	C	.]	[и ј	
RECOMMEN	IDA!	rI(SMC:	: (]	f dif	fere	nt fr	om N	ASA)				
	[/]	[]	ι.]	[_	[\DD/] DEL	ETE)
* CIL RE	TE	(TV	CON	RATIC	NALE:	(If	appl	icab	le)				
REMARKS:									A INA	DEQUATE DEQUATE	Ĩ]	
AFT MANI SEE ASSE	FOI SSM	D EN	3 J T I	ET HE	ATER CS 12	CONT	ROL 51	WITC	H 11	RE-ANALY	ZED	ву	IOA.

ASSESSME ASSESSME NASA FME	TN	II		ARC	:S-2356	;				ASA D BASEL]	
SUBSYSTE MDAC ID: ITEM: CONTACTS	}	, 2		ARC 235 MAN		3, J	ets H	EATE	R CON	TROL	SWIT	СН	OPE	:N
LEAD ANA	LY	ST	:											
ASSESSMI	ENT	:												
	CR		ICAL		I	REDUN	DANCY	SCR	REENS			CII ITE		
	1		LIGH W/FU	NC	2	A	F	3	C	3				
NASA IOA	[2	/2]	[[]	[]	[]) (X	[]	*
COMPARE	[N	/N]	[3	[]	[]		[]	1]	
RECOMME	NDA	TI	ons:	•	(If di	ffere	nt fi	com 1	NASA)					
	[/	3	[]	[]	[1	(AD	[D/I] DELI	ETE)
* CIL R	ETE	NT	ION	RAT	IONALE	: (If	appi	Licak	1	ADEQU <i>I</i> ADEQU <i>I</i>		[]	
REMARKS AFT MAN SEE ASS	IFO	LD ME	3 J	ET I	HEATER ARCS 1	CONT 23067	ROL (-123)	SWITO	CH 11	RE-Al	NALYZ	ED	ву	IOA.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	ARCS-2	357				,	NASA I BASEI	DATA: LINE [NEW [
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 1,		ARCS 2357 MANIFO)LD	3, JE	тѕ н	EATER	CO	NTROL	SWITC	H OP	EN
LEAD ANALYS	T:										
ASSESSMENT:											
	TICALI FLIGHT			EDUND						CL CEM	
Н	DW/FUN	IC	A		В		(C			
NASA [IOA [3 /1R]	[[P	j]	[[P]	[]] P]	[]	*
COMPARE [N /N]	[N]	[N]	[1	4]	[]	
RECOMMENDAT	ions:	(If	dif	feren	t fr	om NA	SA)				
]	/]	[]	[]	[]	[(ADD/	DELI	ETE)
* CIL RETEN	TION R	ATIONA	LE:	(If a	appl:	icable	Ž	ADEQUA']	
REMARKS: AFT MANIFOLI SEE ASSESSMI	D 3 JE ENT ID	T HEAT	ER (CONTRO	DL SV	VITCH			•	-	IOA

ASSESSMEI ASSESSMEI NASA FMEI	TN	I		ARCS	5-2358					ASA DA BASELI N]	
SUBSYSTEMDAC ID: ITEM: CONTACTS		, 4		ARCS 2358 MAN		, JI	етѕ ні	EATE	ER CON	rrol s	SWITCH	OPE	N
LEAD ANA	LYS	ST:	:										
ASSESSME	NT:	:											
	CR.			YTI	RE	DUN	DANCY	SCI	REENS		CII		
	1		LIGH W/FU		A		В		С				
NASA IOA	[3	/3]	[]	[[]	[[]	[]	*
COMPARE	[N	/N	1	[]	[]	[]	[]	
RECOMMEN	IDA'	TI	ons:	(If dif	fere	nt fr	om 1	NASA)				
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REMARKS AFT MAN SEE ASSI	FO	LD	3 3 NT 3	JET H	IEATER	CON'I	ROL S	WIT .XO.	CH 11	RE-AN	ALYZED	BY	IOA.

ASSESSM NASA FM SUBSYST MDAC ID ITEM: CONTACT: LEAD AND	ENTEA EM: :	#:	ID:	ARC ARC 235	_		JETS	HEAT	ER CO		ELIN NEI] B	OF	 PEN
	CR	TI T	ICAI LIGH	LITY	R	EDU	NDANC	Y SCI	REENS			CI	L	
]			INC	A			В		С	,	IT	EM	
NASA IOA	[3	/3]	[]	[]]]		[]	*
COMPARE	[N	/N	1	[]	Ę.	J	ξ]		£]	
RECOMMEN	DA'	ri	ons:	(1	f dif:	fer	ent f	rom N	ASA)					
	[/]	[[[]	(A)	[DD/I) ELI	ETE)
* CIL RE									A INA	DEQU.	ATE	Ĭ]	
AFT MANI SEE ASSE	FOI SSM	D EN	3 J: IT I:	ET HE Ds Ar	ATER (CS 123	ENOS K30	TROL S -1231	WITC	H 11	RE-A	NALYZ	ZED	ВУ	IOA

ASSESSMEN ASSESSMEN NASA FMEA	T	ID		ARC	:S-236	0						1			DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	:			ARC 236 MAN) 4	, JE	ETS	НЕ	EATE	er c	:01	NT:	ROL	SWI	гсн		
LEAD ANAI	YS	T:																
ASSESSMEN	T:																	
C	RI			YTI		RE	DUNI	NAC	CY	SCI	REEN	IS				CIL		
	F		JIGH V/FU			A			В				С					
NASA IOA	[3	/ /1F]	[P]]	P]		[P]		[]	*
COMPARE	[N	/N]	ĺ	N]	[N]		[N]		(]	
RECOMMEN	DA!	ri	ons:	•	(If d	ifi	fere	nt	fr	om 1	NAS	A)						
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* CIL RE	TE:	NΤ	ION	RAT	IONAL	E:	(If	ar	pl	ica					JATE JATE]	٠
REMARKS: AFT MANF SEE ASSE				JET IDs	HEATE ARCS	R 12	CONT 311X	ROI -12	ւ s 231	WIT	CH	12	2 I	RE-A	NALY	ZED	BY	IOA

ASSESSM ASSESSM NASA FM	ENT	. 1	D:		-236	1				NASA D BASEL]	†
SUBSYST MDAC ID ITEM:				ARCS 2361 MANI		4, J	ETS	НЕАТЕ	ER CO	NTROL :	SWITCE	Ŧ	
LEAD AN	ALY	SI	!:										
ASSESSM	ENT	:											
	CR		ICAL LIGH	ITY T	J	REDUN	DANC:	SCR	EENS		CI		
		HD	W/FU	NC	7	A	I	3	C	3 4	1.1	PEM	
NASA IOA	[2	/2]	[]	[]	[]	[x]	*
COMPARE	[N	/N]	[]	ſ]	Ţ]	[n j	
RECOMME	NDA	TI	ons:	(II	f dif	fere	nt fr	om N	ASA)				
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REMARKS:									INA	DEQUAT DEQUAT	E []	
AFT MANI SEE ASSE	FOI ESSI	LD 1E1	4 J	ET HEA Os ARC	TER S 12	CONTI	ROL S -1231	WITCI	H 12	RE-ANA	LYZED	BY	IOA.

ASSESSME ASSESSME NASA FME	NT	II		ARCS-	-2362					ASA DA BASELI]	
SUBSYSTE MDAC ID: ITEM: CONTACTS		, 2	2	ARCS 2362 MANIE	FOLD (4, J	ets Hi	EATE	ER CON	TROL S	SWITCI	H (OPE	N
LEAD ANA	LYS	ST	:											
ASSESSME	ENT	:												
	CR		ICAL		R	EDUN	DANCY	SCF	REENS			IL TE		
	1		LIGH W/FU		A		В		C	:	_			
NASA IOA	[2	//2]	[]	[[]	[]	[[x]	*
COMPARE	[N	/N	1	[]	[]	[)	[N]	
RECOMME	ADA	TI	ons:	(I	f dif	fere	ent fr	om 1	NASA)					
	[/	1	[]	[]	[.]) (ADD	/D	ELI	ETE)
* CIL R		TN	ION	RATIO	NALE:	(If	f appl	ical	. A	ADEQUA ADEQUA	-]	
REMARKS AFT MAN SEE ASS	IFO	LD	4 J	ET HE	ATER CS 12	CONT	rrol s x-1231	WIT	CH 12	RE-AN	ALYZE	Φ:	BY	IOA.

ASSESSMI ASSESSMI NASA FMI	ENT ID:		-2363							SA DAT ASELIN NE			
SUBSYSTE MDAC ID: ITEM: CONTACTS	}	ARCS 2363 MANI		4,	JETS	HI	EATEI	R C	ONTI	ROL SW	ITCH	OP	EN
LEAD ANA	LYST:												
ASSESSME	NT:												
	CRITICA FLIC		R	EDU	NDAN(CY	SCRE	EENS	3		CI	L EM	
	HDW/I	TUNC	A			В			С		*1	LM	
NASA IOA	[3 /1	.R]	[[P]	[P]	[P]		[]	*
COMPARE	[N /N]	[N]	[N]	[n j		[]	
RECOMMEN	DATIONS	3: (I	f diff	fer	ent i	fro	m NA	SA)					
	[/]	[]	Ţ	•	J	[]	(2	[\DD/) DELI	ETE)
* CIL RE	TENTION	RATION	VALE:	(I	f app	oli	cabl	e)	שרו ג	OII A M TO		,	
REMARKS:								IN		QUATE QUATE]	
AFT MANI	FOLD 4 SSMENT	JET HEA	TER C	ON:	TROL X-123	SW	ITCH X.	12	RE	-ANALY	ZED	вч	IOA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2	364				NA B	SA DATA: ASELINE NEW	[]				
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 3, 4	ARCS 2364 MANIF	old 4	, JEI	'S HE	ATER	CONT	ROL SWI	тсн С	PEN				
LEAD ANALYST: ASSESSMENT:													
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS FLIGHT CIL ITEM													
CRITICALITY REDUNDANCY SCREENS ITEM FLIGHT HDW/FUNC A B C													
NASA [/ IOA [3 /] 3]	[]	[[]	[]	[] *				
COMPARE [N /	1]	[]	[]	[1	[]				
RECOMMENDATION	s: (I	f dif	feren	nt fr	om NA	SA)							
	1	[[3	[] ([ADD/I) DELETE)				
* CIL RETENTION	N RATIO	NALE	: (If	app]	licab]		ADEQUATE ADEQUATE]				
REMARKS: AFT MANIFOLD 4 SEE ASSESSMENT	JET HE	ATER	CONT	ROL :	SWITC	н 12	RE-ANAI	LYZED	BY IOA.				

ASSESSM ASSESSM NASA FM SUBSYST MDAC ID ITEM: CONTACT	EM EM :	T # *	ID: :	AR 23	65		JETS	HEAT	TER CO		DATA: LINE [NEW [-	•
ASSESSMI	ENT	?:											
		F	LIG	LITY HT	•	REDU	INDANC	c sc	REENS		CI		
		HD	W/F	UNC	1	A .	I	3	(2	IT	EM	
NASA IOA	[3	/ /3]	[]	[]]	[]	[j	*
COMPARE	[N	/N]	[]	[]	[]	[]	
RECOMMEN	DA'	ri(ONS:	; (:	If dif	fer	ent fr	Om N	JACA \				
								I	·ADA j				
	[/		[•	-	-	•]	[(ADD/I] DELE	TE)
* CIL RE	ren	TI	ON	RATIO	ONALE:	(I:	appl:	icab	le)				•
REMARKS:									A INA	DEQUAT DEQUAT	E i]	
AFT MANIE	SSM	.D En	4 J T I	et he Ds ar	EATER (CONT	ROL SW -12315	VITC	H 12 1	RE-ANA	LYZED	BY :	IOA.

ASSESSMENT DATE:				NASA DATA:	:	
ASSESSMENT ID: NASA FMEA #:	ARCS-236	56		BASELINE NEW	-	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 2366 MANIFOLI) 5, JE	rs heater	CONTROL WIT	СН	
LEAD ANALYST:						
ASSESSMENT:						
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [/ IOA [3 /1R] [p]	[] [P]	[] [P]	[]	*
COMPARE [N /N] [N]	[N]	[N]	[]	
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)		
. [/] [j.	[]	[] (A)	[]	ETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[]	
REMARKS: AFT MANIFOLD 5 SEE ASSESSMENT	JET HEATE IDs ARCS	ER CONTE	ROL SWITCH	1 13 RE-ANAL)	ZED BY	IOA

ASSESSM ASSESSM NASA FM	ENT	ľ	D:		-236	7				NASA DAT BASELIN NE]
SUBSYST MDAC ID ITEM:				ARCS 2367 MANI		5, 3	JETS 1	НЕАТІ	ER CO	NTROL SW	TTCH	
LEAD AN	ALY	ST	:									
ASSESSM	ENT	.										
	CR		ICAL LIGH	ITY T	I	REDUN	IDANC	SCR	EENS		CIL ITEM	
		HD	W/FU	NC	2	Ą	F	3	(2	TIEM	
NASA IOA		2	/2]	[[]	[]	[]	[x]) *]
COMPARE	[N	/N]	[]	[]	[]	[N]]
RECOMMEN	VDA:	TI	ONS:	(II	f dif	fere	nt fr	om N	ASA)			
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* CIL RE	TEI	NT:	ION 1	RATION	VALE:	(If	appl	icab	A	DEQUATE		
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SUBSYSTE MDAC ID: ITEM: CONTACTS	:	, 2		ARC 236 MAN		, J	ets Hi	EATI	er coi	TROL	SWIT	СН	OPE	N
LEAD ANA	ALYS	ST:	:											
ASSESSME	ENT	:												
	CR		ICAL		RE	DUN	DANCY	SCI	REENS			CI		
	1		LIGH W/FU	NC	A		В		•	С				
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		NT	ION	RAT	IONALE:	(II	f appl	ica		ADEQU ADEQU		[]	
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SUBSYSTE MDAC ID: ITEM: CONTACTS		,	2	23	RCS 869 MIFOL	D	5,	JETS	н	EAT	ER (co	NTROI	. SWI	тсн	OP	EN
LEAD ANA	LYS	ST	:														
ASSESSME	NT:	:															
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NASA IOA	[3	/ /1R]]	P]]] P]		[]	*				
COMPARE	[N	/N]	[N]	[N]	(N]		[]	
RECOMMEN	DAT	'IC	NS:		(If d	Ĺfí	fer	ent :	fro	om 1	NASA	(۱					
	[/	J	[)	[]	[]	(Al	[DD/I) DELI	ETE)
* CIL RE	ren	TI	ON F	RAT:	IONALE	: :	(I	f app	pli	.cal		7	ADEQUA		[]	
REMARKS: AFT MANII SEE ASSES	FOL SSM	D EN	5 JE	T	HEATER	2 2	ON	TROL	SW	ITC	CH 1	3	RE-AI	VALY2	ZED	вч	IOA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-2370					A DATA: SELINE NEW	[]					
SUBSYSTEM: MDAC ID: ITEM: CONTACTS 3, 4	ARCS 2370 MANIFOLD 5	, JETS	з неа	TER C	ONTR	OL SWIT	сн о	PEN					
LEAD ANALYST:													
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL													
CRITICALITY REDUNDANCY SCREENS ITEM													
FLIGHT HDW/FUNC A B C													
NASA [/ IOA [3 /3] [] []	ן []	[]		[] *					
COMPARE [N /N] []	[]	[]	l	[]					
RECOMMENDATIONS	: (If dif	ferent	fro	m NAS	A)								
[/]	[3	[] (A	[DD/D] ELETE)					
* CIL RETENTION	RATIONALE:	(If a	appli	cable		EQUATE EQUATE]]					
REMARKS: AFT MANIFOLD 5 SEE ASSESSMENT	JET HEATER IDs ARCS 12	CONTRO	OL SW 12320	IITCH X.	13 R	E-ANALY	ZED	BY IOA.					

ASSESSM ASSESSM NASA FM SUBSYST MDAC ID ITEM: CONTACT:	ENTEA EM: :	#: ;	ID:	ARC ARC 237	1		JETS	неат	ER CO	BASE	DATA: LINE [NEW []] PEN
ASSESSMI	ENT	:											
		F	ICA LIG W/F		R		INDANC	EY SCI B		c		IL PEM	
NASA	[/	1	r	1	r	1	_	_			
IOA	Ī	3	/3]	[j	Ĺ]	[]	[]	*
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RECOMMEN	DAI	CIC	ons:	(I	f dif	fer	ent f	rom N	ASA)				
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* CIL RE	TEN	TI	ON	RATIO	NALE:	(II	f app	licab	le)				
REMARKS:									A INA	DEQUA'	re []	
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ASSESSMEI ASSESSMEI NASA FME	NT ID:	1/29/8 ARCS-1 05-6KA	2001					SA DAT BASELIN NE			
SUBSYSTEM MDAC ID:		ARCS 12001 FUSE,	1 A								
LEAD ANA	LYST:	D. HAR	RTMAN	Ī							
ASSESSME	NT:										
ı	CRITICAL FLIGH		RE	DUNE	ANCY	SCREE	NS		CI:		
	HDW/FU		A		В		С				
NASA IOA	[3 /1R [3 /1R]	[P]	[P [NA) ()	[P [P]	[[]	*
COMPARE	[/	1	[]	[N]	[]	[]	
RECOMMEN	DATIONS:	(If	difi	ferer	nt fro	om NAS	A)				
	[/	1	ι]	[]	[]	[(ADD/	DEL	
* CIL RE	TENTION	RATION	ALE:	(If	appl:	icable	A.	DEQUATI DEQUATI]	
REMARKS:											

NO DIFFERENCES.

ASSESSME	NT	NT DATE: 1/29/88 NT ID: ARCS-12002X A #: 05-6KA-2006-1 M: ARCS 12002												N	iasa Base		E	[x]	
SUBSYSTE MDAC ID:				1	_		A														
LEAD ANA	LYS	3 T :	:	D	. HA	RT.	MA	N													
ASSESSME	NT:	:																			
	CR1				Č		R	EDUN	DAI	NC	Y	SCRE	EN	s				CI.	L EM	,	
FLIGHT HDW/FUNC A B										С				L II.	c.M	•					
NASA IOA	[[3	/1F /1F	l]		[P P]	ļ	[]	P NA]	[P P]		[• •]	*
COMPARE	[/]		[]	ĺ	[]	N]	[)		(•]	
RECOMMEN	DAT	:IC	ns:		(If	đ:	ifi	fere	nt	f	ro	m NA	SA)							
	[/)		[]	ĺ]	[]	(A		D/1] LE	TE)
* CIL RE	ren	ΤI	ON	RAI	NOI	\LI	€:	(If	ar	g.	li	cabl	•		DEQU.]	
REMARKS: NO DIFFE	REN	ICE	s.										1.	NA.	DEQU.	ATE	[j	

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	SA DATA ASELINE NEW]								
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12003 MANIFO	LD #	5, L,	/R OX	& FU	ISC	ol VLV S	WITCH	Ī		
LEAD ANALYS	ST:	D. HAF	MAMT	ľ								
ASSESSMENT:	:											
CR1	ITICAL	ITY	RI	EDUND	ANCY	SCREE	NS		CIL	ví		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC NASA [3 /1R] [P] [P] [] * [P] [NA] [P] []												
NASA [IOA [3 /1F 3 /1F	R]	[P]	[] *						
COMPARE [/	1	[3	[N	1	Į.]	(]		
RECOMMENDA	TIONS	: (If	dif	ferer	t fr	om NA	SA)					
Ι	/]	[3	ſ]	[] (ADD/E) ELETE)		
* CIL RETE	ENTION	RATION	IALE:	(If	appl	icabl		ADEQUATE ADEQUATE	E []		
REMARKS: NO DIFFERI	ences .											

ASSESSM ASSESSM NASA FM	ENT : ENT : EA #	DATE: ID:	1/29, ARCS- 05-61	/88 -12(KA-2	004X 2032-	-2				SA DAT ASELIN NE]
SUBSYST MDAC ID ITEM:	EM: :		ARCS 12004 MANIF) #5,	L/F	к ох	: & FU	J ISO]	L VLV s	SWITCH	ī
LEAD AN	ALYSI	? :										_
ASSESSMI	ENT:											
	CRIT	'ICAL 'LIGH'	ITY T		REDU	NDAN	CY .	SCREE	NS		CIL	
	HD	W/FU	NC		A		В		С		ITEM	
NASA IOA	[x] *]										
COMPARE	[/	J	[]	[N :	l	[]		[N]]
RECOMMEN									-			
]								[D] OD/DEI	ETE)
* CIL RE	TENTI	ON R	ATIONA	LE:	(If	app	lic	able)				·
REMARKS:									NADEC	UATE UATE		
NASA FMEA VALVE PRI	A CON EVENT	SIDE:	RS MUL OLATIO	TIP N O	LE F F A	AILU THRU	RES STE	. IN R LEA	ABILI K.	TY TO	CLOSE	THE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12005X 05-6KA-2032-2	Y [X]									
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12005 MANIFOLD #5, I	L/R OX & FU ISOL VLV S	SWITCH								
LEAD ANALYST:	D. HARTMAN										
ASSESSMENT:											
CRITICAL	· · · -	DANCY SCREENS	CIL ITEM								
FLIGH HDW/FU		A B C									
NASA [3 /1R IOA [3 /1R] [P]] [P]	[F] [P] [NA] [P]	(X) *								
COMPARE [/] []	[ון (א	[N]								
RECOMMENDATIONS:	(If differe	nt from NASA)									
[3 /1R] [P]	[P] [P] ([D] ADD/DELETE)								
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATE INADEQUATE									
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. INABILITY TO CLOSE THE VALVE PREVENTS ISOLATION OF A THRUSTER LEAK.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/29/8 ARCS-1 05-6KA	8 2006X -2032-2		NASA DAT BASELIN NE							
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12006			FU ISOL VLV	SWITCH						
LEAD ANALYST:	D. HAR	TMAN									
ASSESSMENT:											
CRITICAI FLIGH		REDUNI	DANCY SCRI	EENS	CIL						
HDW/FU	NC	A	B C								
NASA [3 /1F IOA [3 /1F		[P] [P]	[F] [NA]	[P] [P]	[X] * []						
COMPARE [/]	[]	[N]	[]	[N]						
RECOMMENDATIONS:	(If o	differer	nt from NA	ASA)							
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* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []											
REMARKS:											
VALVE PREVENTS T	ELLUM CAL SOLATION	IOE V T	TLUKES.	INABILITY TO	CLOSE THE						

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEI ASSESSMEI NASA FME	T	ID			ARC	/29/88 NASA DATA: RCS-12007X BASELINE [] 5-6KA-2032-1 NEW [X]]									
SUBSYSTEM MDAC ID: ITEM:	M:				ARO 120 MAI	107	LE) #	5,	L,	/R	KO	. &	FU	I	so	L'	ATA	SW	ITC	Н	
LEAD ANA	LYS	ST:	:		D.	HAR	TM	IAN	Ī													
ASSESSME	NT:	:																				
	CR:				ĽΥΥ			RE	DU	ND	ANG	CY	sc	REE	NS	;				CIL		
	3		LIG V/F		NC L			A				В				С						
NASA IOA	[3	/1 /1	R R]		[P P]		[P P]		[P P]			[]	*
COMPARE	[/]		[]		[1		[]			[]	
RECOMMEN	'DA'	TI	ONS	:		(If	d	if:	fer	en	t	fr	om	NAS	A))						
	[/]		[]		ĺ]		[]		(A	[DD/I)EL	ETE)
* CIL RE		NT	101	1	RAT	'ION	AL	E:	()	Œ	ap	pl	ica	able				TAU(TAU([]	
REMARKS:		NC	ES.																			

ASSESSMI ASSESSMI NASA FMI	MENT DATE: 1/29/88 MENT ID: ARCS-12008X MEA #: 05-6KA-2090-1 TEM: ARCS								1	NASA Base		[x]						
SUBSYSTI MDAC ID: ITEM:	em:			12	800	ro:	R,	1.2	K 2	W										
LEAD ANA	LY	ST	:	D.	HAI	RT)	MAI	N												
ASSESSME	ENT	:																		
	CR	IT:	ICAL:	ITY r			RI	EDUNI	OAN	CY	sc	REE	NS			C]				
	1	HDI	W/FUI	NC.			A			В			c	:		TJ	CEN	1		
nasa Ioa]	3	/1R /2R]		[P P]	[F P]		[F))		[X]	*	
COMPARE	[/N]		[]	[N]		[]		[N]		
RECOMMEN	DAT	CIC	ons:		(If	đi	ff	eren	it 1	rc	m	NASZ	A)							
	[3	/2R]		[P]	[P]		P]	(AE	[/Q/			TE)	
* CIL RE	TEN	TI	ON R	(TA	CONA	LF	:	(If	app	li	.ca	ble)				_				
REMARKS:													NA	DEQUA DEQUA	TE	Ì]		
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.																				

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12009X NASA FMEA #: 05-6KA-2090-2									ASA DA BASEL]	NE			
SUBSYSTEM MDAC ID:			ARCS 1200 RESI		1.2	K 2W							
LEAD ANA	LYST	:	D. F	IARTMAI	1								
ASSESSME	NT:												
•			ITY	RI	EDUN	DANCY	SCR	EENS			CIL		
	_	LIGH W/FU		A		В	_						
NASA IOA	[3	/3]	[]	[[]	[]		[]	*
COMPARE	[/)	[]	[]	[]		[]	
RECOMMEN	DATI	ons:	(If dif	fere	nt fr	om N	IASA)					
	,[/]	[]	[]	. []	(A	[DD/I)ELE	TE)
* CIL RE		TION	RATI	ONALE:	(If	appl	icab	4	ADEQUA ADEQUA]	
REMARKS:		CES.											

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SUBSYSTE MDAC ID:			ARC 120 RES	_	5.	1K 1/	4W						
LEAD ANA	LYS	ST:	D.	HARTMA	N								
ASSESSME	ENT:	:											
	CRI		ALITY GHT	R	EDU	NDANC!	SCF	REENS			CI		
	F		FUNC	A		I	3	(2		IT	EM	
NASA IOA	[3 /3	3] 3]	[]	[]	[]]]	*
COMPARE	[/]	[J	[]	[]		[]	
RECOMMEN	DAT	CIONS	S: (:	If dif:	fere	ent fr	om N	ASA)					
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REMARKS:	REN	CES.						INA	DEQU.	ATE	Ī	j	

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SUBSYSTI MDAC ID: ITEM:					011	or,	5.1K	1/41	W						
LEAD AN	ALYS	ST:	:	D.	HAR	RTMAN	Ī								
ASSESSM	ENT:	:													
	CR		ICAL LIGH		,	RE	DUND	ANCY	SCREI	ens			CIL	4	
	F		W/FU			A		В			С			-	
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	[/]		[]	[]	[1	(AI	[DD/DI		E)
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DEMARKS	•														

NO DIFFERENCES.

ASSESSMI	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12012X NASA FMEA #: 05-6KA-2091-1														TA: NE EW]	
SUBSYSTI MDAC ID: ITEM:			ARCS 12012 RESIS	_	R,	5.	1K	1,	/41	W								
LEAD ANA	LYST	:	D. HA	RT	MA	N												
ASSESSME	ENT:																	
	F	LIGH:	-				NDAI	VC	Y	sc	REEN	s				IL TEM		
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NASA IOA	[3	/3 /2R].	[P]	1	:	P]]	P]]]	*
COMPARE	[/N]	[N]	(•	N]	[N]		[]	
RECOMMEN	DATIC	ONS:	(If	d:	if	fer	ent	f	ro	m]	nasa j)						
	[3	/2R]	[P]	[P]	[P]	([ADD] LE:	ΓE)
* CIL RE	TENTI	ON R	ATION	ALI	₹:	(II	f ap	p	li	cal	ble)	λΓ	EOI	T X (T)	ı P		-	
REMARKS: AGREE WIT	TH IC)A AN	ALYSI:	5.							IN			JATE JATE		:]	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARCS-12	013X	1			SA DATA ASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12013 RESISTO	DR, 5.	1K 1/4W	1				
LEAD ANALYST:	D. HART	MAN						
ASSESSMENT:								
CRITICA FLIG		REDU	NDANCY	SCREE			CIL ITE	
HDW/F	UNC	A	В		С		÷	
NASA [3 /3 IOA [3 /2] R]	[p]	[[P]	[[P]	[] *]
COMPARE [/N]	[и]	[и]	[N]	C]
RECOMMENDATIONS	: (If	differ	ent fro	om NAS	A)			
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* CIL RETENTION	RATIONA	LE: (I	f appl:	icable) AI INAI	EQUATE	[]
REMARKS:								

ASSESSME ASSESSME NASA FME	NT ID:	ARCS- 05-61	-1201					DATA: SELINE NEW	[[x]
SUBSYSTE MDAC ID: ITEM:	M:	ARCS 12014 RESIS		5.1	.K 1/4	W				
LEAD ANA	LYST:	D. H	ARTMA	N						
ASSESSME	NT:									
	CRITICA		R	EDUN	DANCY	SCF	EENS		CIL	
	FLIG HDW/F						Ç		ITEM	
NASA IOA	[3 /3 [3 /2] R]	[[P]	[[P]	[] [P]		נ נ] *
COMPARE	[/N]	[N]	[N)	[N]		[]
RECOMMEN	DATIONS	: (I1	dif	fere	nt fr	om N	'ASA)			
	[3 /2	R]	[P]	[P]	[P]	(ADI	[D/DE:] LETE
* CIL RE	TENTION	RATION	ALE:	(If	app1	icab	•	UATE UATE	[]
REMARKS:										

ASSESSMEN' ASSESSMEN' NASA FMEA	r ID:	1/29/88 ARCS-120 05-6KA-2			NASA DATA BASELINE NEW]
SUBSYSTEM MDAC ID: ITEM:	:	ARCS 12015 RESISTO	R, 5.1K	1/4W			
LEAD ANAL	YST:	D. HART	MAN				
ASSESSMEN	T:						
С	RITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM	ſ
	FLIGHT HDW/FU		A	В	С		
NASA IOA	[3 /3 [3 /2R] [p]	[] [P]	[] [P]	[] *]
COMPARE	[/N] [N]	[N]	[N]	[]
RECOMMEND	ATIONS:	(If d	ifferen	t from NA	ASA)		
	[3 /2R] [Pj	[P]	[P]	[ADD/Di] ELETE)
* CIL RET	ENTION	RATIONAI	E: (If	applicabl	Le) ADEQUATE INADEQUATE]
REMARKS:						•	•

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12016X 05-6KA-2156-1	NASA DATA BASELINE NEW	: [] [x]									
SUBSYSTEM: MDAC ID:	ARCS 12016 EVENT INDICATOR											
LEAD ANALYST:	D. HARTMAN											
ASSESSMENT:												
CRITICAL: FLIGHT		CY SCREENS	CIL ITEM									
HDW/FUI	NC A	ВС	TIEM									
NASA [3 /1R IOA [3 /2R] [P] [] [P]	F] [P] P] [P]	[X] *									
COMPARE [/N] [] [и] []	[N]									
RECOMMENDATIONS:	(If different	from NASA)										
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* CIL RETENTION R	RATIONALE: (If app	olicable) ADEQUATE	г 1									
REMARKS:		INADEQUATE	-									
PROVIDED. LOSS O	REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE LOSS OF ACCURATE INDICATION OF THE VALVE POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.											

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12 05-6KA-	017X		NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12017 EVENT I	NDICATOR				
LEAD ANALYST:	D. HART	MAN				
ASSESSMENT:						
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [3 /3 IOA [3 /2F]	[] [P] ([] [P]	[] [P]	[]	*
COMPARE [/N]	[N]	[и]	[и]	[]	
RECOMMENDATIONS:	(If	different	t from NAS	SA)		
[3 /21	R]	[P]	[P]	[P]	[]	ETE)
* CIL RETENTION	RATIONA	LE: (If a	applicable	≥) ADEQUATE INADEQUATE		
REMARKS:				·-		

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	:	A	RCS-	-12	01	.8X .77	-1								EL.	ATA INE NEW	[x]]
SUBSYSTI MDAC ID: ITEM:					1	RCS 2018 ONTR		LE	R,	REI	MO	TE	PC	OWE	R							
LEAD ANA	YLY	ST	:		D	. на	RT	MA	N													
ASSESSME	ENT	:																				
	CR	IT: F:	IC LI	AL GH	ITY r	ľ		R	EDI	ממע	ĮN(CY	sc	CREE	ENS	5				CI		
	. 1	FLIGHT HDW/FUNC						A				В				С				IT	EM	
NASA IOA	[3 3	/	1R 1R]		[P P]		[P NA]]	P P]			[]	*
COMPARE]		/]		[]		[N]		[]			[
RECOMMEN	DAI	PIC)N	s:		(If	đ	Ĺfí	fer	ent	f	ro	m .	NAS	A)							
	[/]		[]		[]		[]		(AD	[D/I] DEL	ETE
* CIL RE	TEN	ΤI	:01	N F	AT	ION?	\L E	E:	(I	fa	pp	li	cal			ΑĽ	EQU	JAT:	E E	[j	
REMARKS: NO DIFFE	REN	CF	's												T 14	AL	'nĽŲĹ	JAT.	C,	L	J	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12019X	NASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12019 CONTROLLER, REMOTE POWER	
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		OTT.
CRITICAL	ITY REDUNDANCY SCREEN	S CIL ITEM
FLIGH HDW/FU	NC A B	С
NASA [3 /1F IOA [3 /3	[P] [F] [] [] [P] [X] *
		N] [N]
RECOMMENDATIONS:	: (If different from NASA	()
		[D] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] INADEQUATE []
REMARKS: NASA FMEA CONSI NO EFFECT.	DERS MULTIPLE FAILURES. '	THIS FAILURE ALONE HAS
DISCUSSED. IT	SUBSYSTEM MANAGER ON 1/20 WAS AGREED UPON THAT THE ITO DIFFERENT INTERPRETATION ISSUE REMAINS OPEN.	/88, NSTS 22206 WAS SSUE (MULTIPLE FAILURES) NS OF NSTS 22206.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12020X 05-6KA-2178-	1	NASA DATA BASELINI NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12020 CONTROLLER,	REMOTE POWER		
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL: FLIGHT	[NDANCY SCREE	NS	CIL
HDW/FUI	IC A	В	С	ITEM
NASA [3 /2R IOA [2 /2] [P]] []	[P] []	[P] []	[] * [X]
COMPARE [N /N] [N]	[N]	[и]	[N]
RECOMMENDATIONS:	(If differe	nt from NASA	A)	
[2 /2] []	[] [[] (AD	[A] D/DELETE)
* CIL RETENTION R	ATIONALE: (If	applicable)		
REMARKS:			ADEQUATE NADEQUATE	[] []
LOSE CAPABILITY TO VERNIER OPERATION	OPEN THE ISO THUS LOSS OF	OLATION VALV MISSION OPE	E. THIS PRE	EVENTS
ISSUE IS TIED TO TO CLOSED MANIFOLD 5	THE IOA HARDWA ISOLATION VAI	ARE CRITICAL	ITY FOR THE	FAILED

CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DA ASSESSMENT IC NASA FMEA #:): <i>I</i>	L/29/88 ARCS-12 05-6KA-						1		SA DATA: ASELINE NEW		[]	!
SUBSYSTEM: MDAC ID: ITEM:	1	ARCS 12021 CONTROL	LER	, REM	от	Έ	POWER						
LEAD ANALYST:	: 1	D. HART	MAN	Ī									
ASSESSMENT:													
CRITICALITY REDUNDANCI SCRIBING												L E M	
FLIGHT HDW/FUNC A B C													
NASA [3 IOA [3	/1R /3	C A B C] *.
COMPARE [/N] [N]	[N]	[N]	[N	1
RECOMMENDATI	ons:	(If d	lifi	ferent	: 1	fro	om NAS	A)					
[3	/3]]	[1	[] (A)	[DD/] LETE)
* CIL RETENT	ION R	RATIONA	LE:	(If a	ap)	pl:	icable			DEQUATE DEQUATE	[]
REMARKS: NASA FMEA CO NO EFFECT.	NSIDE	ERS MUL	rip:	LE FA	IL	UR:	ES.	T	HIS	S FAILUR	E A	LC	ONE HAS
										vama a	226		WAC

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	, D #:	ATE: D:	1/ AR 05	29/ CS- -6K	88 12 A-	02 22	2X 10A-:	1						ASA DATA BASELINI NEV] 3				
SUBSYSTIMDAC ID	EM:				022	R,	н	YBRII)											
LEAD AND	\LY:	ST	:	D.	HAI	RTI	MAI	N	٠											
ASSESSMI	ENT	:																		
	CR	IT: F	ICAL: LIGH	ITY r		RI	EDUNE	AN	CY	sc	REE	NS				IL				
	I		/FU				A			В			(С		Τ.	ren	1		
NASA IOA]	3	/1R /2R]		[P P]]	F P]		[]	P P] .	[X] *	+	
COMPARE	[/N]		[]	[N]		(1	[N]		
RECOMMEN	DA T	CIC	ons:	((If	di	ff	eren	t 1	fro	om .	NAS	A)							
	[3	/2R]		[P	J	[P	3	-	[E	•		[\dc	D 'DE] :LET	'E)	
* CIL RE	TEN	ΤI	ON F	LATI	ONA	LE	:	(If	app	11	ca	ble)				_				
REMARKS:													A NA	D)	EQUATE EQUATE	[]		
NASA FME LOSS OF PROVIDED VALVE CL	ACC •	UR LO	ATE SS 0	IND F A	ICA	TI RE	ON DU	OF T	THE	V Ma	ALV	VE S	TA T	T	PATCRES	TETT	77	MAN		'HE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FMEA	T	ID:		ARG	1/29/88 NASA DAT ARCS-12023X BASELIN 05-6KA-2210A-2 NE ARCS 12023 DRIVER, HYBRID											[]	ĸ .]
SUBSYSTEM MDAC ID: ITEM:	:			12	023	,	нч	BRID										
LEAD ANAI	LYS	T:		D.	HAR	TM	AN	1										
ASSESSMEN	1T:																	
(CRI			LTY			RE	DUND	ANO	CY	SCRI	EENS	,			CI	L EM	Ī
	F		IGI /FU	IT JNC			A			В			С					
NASA IOA	[3	/11 /11	R]		[P P]	[F P]]	P P]		[X] *
COMPARE	[/]		[]	[N	3	[]		[N]
RECOMMEN	DA!	ric	ONS	:	(If	đ	if	fere	nt	fr	om N	'ASA')			,		
	[/	1		(]	[]	[]	(A	DD,	/DI] ELETE)
* CIL RE	TE	NT:	ION	RA'	rion.	ΑL	E:	(If	ap	pl	icab			DEQU <i>A</i> DEQU <i>A</i>		[]
REMARKS:	EES	W.	ITH	NA:	SA F	ME	A.											

ASSESSM ASSESSM NASA FM	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12024X NASA FMEA #: 05-6KA-2210-1 SUBSYSTEM: ARCS													N	IASA BASE	DATA LINE NEW	: []		
SUBSYSTIMDAC ID	EM:			ARCS 1202 DRIV	4	н	YBR	ID											-		
LEAD AND	ALY	ST	':	D. H.	ART	MA	N														
ASSESSMI	ENT	:																			
	CR	IT F	ICAL LIGH	ITY T		R	EDU:	NDA	N	CY	s	CREE	ENS	S				IL			
	1			NC		A				В				С			I'	ΓEN	1		
NASA IOA]	x]	*	
COMPARE	[/N]	[]	į	•	N]		[]		[N]		
RECOMMEN	DAT	CIC	ONS:	(If	di	ff	ere	ent	f	rc	m	NAS.	A)								
]												(AD	[D/	D DE] LE	TE.)
* CIL RE	TEN	ΙΤΊ	ON F	NOITA	ALE	:	(If	ap	p	li	Ca	ble)		_						
REMARKS:					_								EN.	AD	EQUA	TE TE	[
NASA FMED LOSS OF A PROVIDED. VALVE CLO		LO	SS O	F ALT.	מבת ידדי	DIT	1U KUM	TH	Ľ.	V.	AL	VE S	ST.	AT	US.	RED					
AT MEETIN DISCUSSED WAS RAISE THEREFORE	D I	DŪ:	E TO	DTFRI TRRTC	EDEN	ידית ניט	TNI	ימשת ענד	7.1		1 ГН ГА	/20/ E IS TION	'88 ST 'S	3 , JE O1	NST (MU) F NS	S 22: LTIP: TS 2:	20 LE 22	5 V F.Z D6.	VAS	LUR	ES)

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-120 05-6KA-2			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12025 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /2R IOA [2 /2] [P]	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[2 /2] []	[]	[] (A	[A] DD/DELETE)
* CIL RETENTION	RATIONAL	Æ: (If a	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE CAU CAUSES LOSS OF M	JSES INAE	BILITY TO	O OPEN TH	E ISOLATION	VALVE WHICH

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	: ARCS-	88 12026X A-2213-		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12026 DRIVE	R, HYBR	ID		
LEAD ANALYST:	D. HA	RTMAN			
ASSESSMENT:					
FL	CALITY IGHT /FUNC	REDUI	NDANCY SCF	REENS C	CIL ITEM
NASA [3 /	/1R] /1R]	[P] [P]	[P] [NA]	[P] [P]	[] *
COMPARE [′]	[]	[N]	[]	[]
RECOMMENDATION	is: (If	differe	ent from N	ASA)	
[/	']	[]	[]	[]	[] ADD/DELETE
* CIL RETENTION REMARKS: NO DIFFERENCES		ALE: (If	f applicab	le) ADEQUATE INADEQUATE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-120	27X 213-2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12027 DRIVER,	HYBRID			
LEAD ANALYST:	D. HARTI	IAN			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREENS	3	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3	[P] [F] [P]	[X] *
COMPARE [/N				N]	[N]
RECOMMENDATIONS:	(If d	ifferent f	rom NASA)	
] [1	[D] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app	olicable) I	ADEQUATE NADEQUATE	[]
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULI	PIPLE FAIL	JRES. TH	IS FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTE	MANAGER	ON 1/20/	88, NSTS 2	2206 WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.
THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT	I	D:	AF	CS-12	ากว	8X 12-	-1						ASA BASI	ELI	NE]	
SUBSYST: MDAC ID ITEM:				12	CS 028 IVER,	Н	YBR	RID											
LEAD AN	ALYS	ST	:	D.	HART	'MA	N												
ASSESSMI	ENT:	:																	
		FI	CAL LIGH	r		R	EDU	NDAI	NC	Y	SCF	REENS	5				CIL ITEN	vr	
	H	IDV	/FUI	NC		A				В			С					•	
NASA IOA	[3 3	/1R /1R]]	P P]	 	[P NA]	[P P]			[]	*
COMPARE	[/]	[]	[•	N]	[]			[]	
RECOMMEN	DAT	'IC	NS:		(If d	if	fer	ent	f	ro	m N	ASA)							
	[/]	[]	[]	[]	(D/DE		TE)
* CIL RE	TEN	TI	ON F	(TAS	ONAL	E:	(I:	f ap	p.	li	cab.		ΔD	EQU	አጥቱ			,	
REMARKS: NO DIFFE	REN(CE.	s.											EQU]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12029X 05-6KA-2212-2	NASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12029 DRIVER, HYBRID	
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
CRITICAL		S CIL ITEM
FLIGH HDW/FU		С
NASA [3 /1F IOA [2 /2	R] [P] [F] [P] [X] *
COMPARE [N /N		[]
RECOMMENDATIONS	: (If different from NASA	7)
] [] []	1
* CIL RETENTION	RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []
REMARKS: NASA FMEA CONSI EFFECT.	DERS MULTIPLE FAILURES. T	HIS FAILURE ALONE HAS NO
DISCUSSED. IT	SUBSYSTEM MANAGER ON 1/20 WAS AGREED UPON THAT THE I TO DIFFERENT INTERPRETATION OF THE PROPERTY OF THE PROPER	/88, NSTS 22206 WAS SSUE (MULTIPLE FAILURES) NS OF NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT	r :	ID:	: 1 A 0	./29/ .RCS- .5-61	/88 -12 (A-	3 203 -22	80X 211-	1					ì		DATA ELINE NEW	E []	
SUBSYST MDAC ID ITEM:		:		1	RCS 2030 RIVE		Н	IYBR	ID								•		•	
LEAD AN	ALY	'SI	?:	D	. на	RT	MA	N												
ASSESSM	ENT	!:																		
		F.	LIGH	IT			R	EDUI	NDA	NC	Y	sc	REEN	s				CL PEM	•	
		HD	W/FU	ЛC			A				В			C			1.	LEM	ı	
NASA IOA		3 2	/2F /2]		[P]	İ		P]]	P]		[x]	*
COMPARE	[N	/N]		[N]	[. 1	N]	[N	J		[N]	
RECOMMEN	IDA:	ri(ONS:		(If	đi	fí	fere	nt	fı	ro	m]	NASA)						
			/2			[J	C]	-]	(AD	[)D/	A DE:] LE'	TE)
* CIL RE	TEN	(TV	ON I	RAT	'IONA	LE	:	(If	ap	pl	.i	cak	ole)							
REMARKS:														IAD	EQU <i>I</i> EQU <i>I</i>	ATE ATE	[:]]	
LOSE CAP. VERNIER	ABI OPE	LI	TY ?	ro (open Hus	T LO	HE SS	IS OF	OLA: MI:	TI SS	O1	V V	/ALVE OPER	:. AT	THI IONS	S PR	EVI	ENT	ľS	

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARCS-120	031X 2211 - 2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12031 DRIVER,	HYBRID			
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICA		REDUNDANC	Y SCREEN	S	CIL ITEM
FLIG HDW/I		A	В	С	
NASA [3 /1 IOA [3 /3	R] [P] [F] [P]	[X] *
COMPARE [/			и] [[и]
RECOMMENDATIONS	: (If d	lifferent f	rom NASA	.)	
[3 /	;] [] [] [[D] DD/DELETE)
* CIL RETENTIO	RATIONAL	LE: (If app		ADEQUATE	
REMARKS: NASA FMEA CONS EFFECT.	DERS MUL	riple FAIL	URES. TH	HIS FAILURE	ALONE HAS NO
AT MEETING WIT DISCUSSED. IT	WAS AGRE	ED UPON TH	AT THE I	/88, NSTS 2 SSUE (MULTI	,

WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-1203					ASA DA BASELI N		[[X]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12032 DRIVER, H	HYBRID								
LEAD ANALYST:	D. HARTMA	AN .								
ASSESSMENT:						•				
CRITICALI FLIGHT		REDUNDA	NCY	SCREE	NS			CIL		
HDW/FUN		L	В		С]	TE	M	
NASA [3 /2R IOA [2 /2] [P)]]	[P]	[P]	[X]	*
COMPARE [N /N] [N	,]	[N)	[И]	[]	
RECOMMENDATIONS:	(If dif:	ferent	fro	m NASA	A)					
[2 /2] [] [•) [•] ADD	X /DE		TE)
* CIL RETENTION R	ATIONALE:	(If ap	pli	cable)						
REMARKS:				I		EQUATE EQUATE]	
LOSE CAPABILITY TO VERNIER OPERATION	O OPEN THE THUS LOSS	E ISOLA S OF MI	TIO	VALV	E. RAT	THIS	PRE	VEN	TS	

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1203 05-6KA-22	33X 213A-2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM:	ARCS 12033 DRIVER, H				
LEAD ANALYST:	D. HARTMA	AN			
ASSESSMENT:					
CRITICAI FLIGH	ITY I	REDUNDANC	Y SCREE	NS	CIL ITEM
HDW/FU	NC Z	A	В	С	
NASA [3 /1F IOA [3 /1F		P] [P] [F] P]	[P] [P]	[] *
COMPARE [/] [] [и]	[]	[N]
RECOMMENDATIONS	(If di	fferent f	rom NAS	A)	
[3 /3] [] [1		[D] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If app	plicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONSI EFFECT.	DERS MULTI	(PLE FAIL	URES. T	THIS FAILURE	ALONE HAS NO
AT MEETING WITH DISCUSSED. IT WAS RAISED DUE	WAS AGREEL TO DIFFERI	ENT INTER	PRETATION OF THE PRETAT		

REPORT DATE 2/26/88

THEREFORE, THIS ISSUE REMAINS OPEN.

C-2587

ASSESSMENT DATE: 3 ASSESSMENT ID: 1 NASA FMEA #: 0	1/29/88 ARCS-12034X 05-6KA-2224-1		NASA DATA BASELINE NEW	
MDAC ID:	ARCS 12034 DRIVER, HYBRID			•
LEAD ANALYST:	. HARTMAN			
ASSESSMENT:				
CRITICALIT FLIGHT	Y REDUNDAN	CY SCREE	NS	CIL
HDW/FUNC		В	С	ITEM
NASA [3 /1R] IOA [2 /2]	[P] [[] [P]	[P] []	[] *
COMPARE [N /N]	ן א ן	N]	[и]	[N]
RECOMMENDATIONS:	(If different f	rom NAS	A)	
[2 /2]				[A] DD/DELETE
* CIL RETENTION RAT	FIONALE: (If app		ADEQUATE	[]
REMARKS: LOSE CAPABILITY TO VERNIER OPERATION T	OPEN THE ISOLAT	TAN 173.5-	NADEQUATE E. THIS PR ECTIVES.	[] EVENTS

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN ASSESSMEN NASA FME	NT NT A #	DA ID	TE:	1/: AR 05	29/8 CS-1 -6KA	8 20 - 2	35 22	X 4-2						SA DA BASELI N		[
SUBSYSTEM MDAC ID: ITEM:	ı:			AR 12	CS 035			BRID												
LEAD ANA	LYS	ST:	:	D.	HAR	TM	IAN	Ī												
ASSESSME	NT:	:																		
	CR.	IT)	CAL	ITY			RE	DUNDA	N	CY	sc	CREENS	5			CI				
		HDV		NC						В			С							
NASA IOA	[3	/1R /3]		[P]	[F]]	P]]	X]	*	
COMPARE]		[N]		
RECOMMEN	'DA'	TI	ons:		(If	đ.	if:	feren	t i	fr	om	NASA)							
	(3	/3]		[]	[]	[]	(A)				ETE))
* CIL RE	TE	NT	ION	RAT	NOI	AL	E:	(If	ap	pl	ic		A	DEQUA DEQUA]		
REMARKS: NASA FME EFFECT.	EΑ	co	NTA	INS	MUL	TI	PL	E FAI	LU	RE	s.	THI	S	FAILU	RE .	AL	I N C	E I	HAS	ИО
AT MEETI DISCUSSI WAS RAIS	7		TM 1	מ גדו	ス へ つ	rr	חי	UPON T INT	איוי	PR	' '1'	ME LE	เอเ	IL (MU		F_{μ}		r n	AS ILU	RES

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT	I	D:	2	L/29, ARCS: 05-61	-12	203	86X 257	-1						ASA DA' BASELII NI]	
SUBSYSTI MDAC ID: ITEM:				1	RCS 2036 IODE													-	
LEAD ANA	ALYS	ST	:	D	. на	\RT	MA	N											
ASSESSME	ENT:	:																	
	CRI		ICA1 LIGI		Y		R	EDU	JND	AN	CY	sc	CREENS	S		C	[L		
	H		V/FU				A				В			С		IJ	EM		
NASA IOA]	3 3	/1F /3	R]		[P]	٠	[F]	[[P]	[х <u>ј</u>	*	
COMPARE	[/N]		[N]		[N]	[N]	-	[א		
RECOMMEN	DAT	IO	NS:		(If	d:	ifi	fer	ent	t 1	fro	om I	NASA)						
	ĺ	3	/3]		[)		[]	[] (2		D] DEL	ETE)	
* CIL RE	ren'	TI:	ON	RAI	NOI	ALF	E:	(I:	f a	pp	li	cal	ble)					•	
REMARKS:													IN	AD:	EQUATE EQUATE	į]		
NASA FME	A CO	SMC.	SID	ERS	MUI	TI	PL	E I	FAI	LU	RE	s.	THIS	S I	FAILURE	AL	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT I		AR	29/88 CS-12 -6KA-	037		2						SA DA ASEL:		[x]	
SUBSYSTE MDAC ID: ITEM:	M:		120 DI															
LEAD ANA	LYST	:	D.	HART	MAI	1												
ASSESSME	NT:																	
	CRIT	_			RI	EDUI	NADN	CY	SCI	REE	NS	3				IL TEN	4	
	_	LIGH W/FU			A			В				С			•		-	
NASA IOA	[3 [3	/3 /2R]	[P]	[P]		[[P]		[x]	*
COMPARE	[/N]	[N]	[N]		[N	1		[N	}	
RECOMMEN	DATI	ons:		(If d	if	fer	ent	fr	om 1	NAS	A)	ı						
	[3	/2R]	[P]	[F]		[P]	(A		A /DI		ETE)
* CIL RE	TENT	NOI	RAT	IONAI	E:	(I	f ap	pl:	ica				DEQUA DEQUA		[]	
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ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

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AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

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NO DIFFERENCES.

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LOSE GPC	COM	MAND	TO C	LOSE 7	THE	VALV:	E TO	ISOLA	ATE A	THRU	STE	R LEAK.

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMEN ASSESSMEN NASA FMEA	T ID		1/29/ ARCS- 05-6K	12043	:			SA DA ASELJ	NE	[[x]	
SUBSYSTEM MDAC ID:	i:		ARCS 12043 DIODE									
LEAD ANAI	YST:		D. HA	RTMAI	1							
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SUBSYSTEM MDAC ID:	{:		ARC 120 DIC)49													
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NO DIFFERENCES.

ASSESSMENT ASSESSMENT NASA FMEA	r ID:	ARCS-120		NASA I BASEI		
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12052 DIODE				
LEAD ANALY	ST:	D. HARTM	IAN			
ASSESSMENT	7:					
CR	RITICAL: FLIGHT		REDUND	ANCY SO	REENS	CIL ITEM
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ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	TE:	ARC	9/88 5-12053 6KA-225					BASEI		[x]
SUBSYSTEM MDAC ID:	4 :			ARC: 120 DIO	53								
LEAD ANA	LYS	T:		D.	HARTMAI	N.							
ASSESSME	NT:	:											
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:	1/29/88 ARCS-12 05-6KA-	054X 2279-1		NASA DATA BASELINE NEW	
	ARCS 12054 DIODE				
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL
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ISSUE NOT RESOLVED WITH SUBSYSTEM MANAGER ON 1/20/88.

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ISSUE NOT RESOLVED WITH SUBSYSTEM MANAGER ON 1/20/88.

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SUBSYSTEMDAC ID:	M:		ARC: 120: DIO:	57									
LEAD ANA	LYST	:	D. 3	HARTMAN	1								
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	H	FLIGH IDW/FU		2	1	F	3	C	2				
NASA IOA	[3 /3 3 /3]	[]	[]	[[]		[]	*
COMPARE	[/	1	[]	[]	[]		[]	
RECOMMEN	IDA'I	CIONS:	; (:	f di	ffere	ent fi	rom N	(ASA)					
	[/	1	ί]	[]	[]	(A	[DD/I] DELF	ETE)
* CIL RI	ETEI	NOITN	RATI	ONALE	: (Ii	f app	licak	4	ADEQUA ADEQUA		[]	
REMARKS	:												

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	ID:	ARC	29/88 CS-120 -6KA-2	60X 2571	E-1		J		DATA ELINI NEV] x]	
SUBSYST MDAC ID ITEM:			ARC 120 DIO	60								•	
LEAD AN	ALYS	ST:	D.	HARTMA	N.								
ASSESSM	ENT:												
		FLIG		F	EDU	NDANG	CY SC	REENS			CII		
		DW/F		A	=		В	C			711	714	
NASA IOA	[3 /3 3 /11] R]	[[P]	[NA]	[[P]		[] *	
COMPARE	[/N]	[и)	£	N]	[N]		[]	
RECOMMEN	IDAT:	IONS:	(]	If dif	fer	ent f	rom 1	VASA)					
	[-		(]]]	[]		[DD/D] ELETE)
* CIL RE	TEN	TION	RATIO	NALE:	(II	f app	licab	ole)					
REMARKS:								INAI	DEQU DEQU	ATE	[]	
LOSE GPC	COM	MAND	TO C	LOSE 1	THE	VALV	E TO	ISOLAT	E A	THRU	ISTE:	R LEAF	₹.

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMEN ASSESSMEN NASA FME	T	ID		ARC	9/88 S-12 6KA-	061	X 7E-2]	NASA DATA BASELINE NEW]
SUBSYSTE MDAC ID:	M:			ARC 120 DIC	61								
LEAD ANA	LYS	T:		D.	HAR	TMAN							
ASSESSME	NT:												
	CRI		CAL			RE	DUND	ANCY	SCREE	ENS	;	CIL	
	Н		LIGH V/FU			A		В			С		
NASA IOA			/3			[]	[]	[]	[] *]
COMPARE	[/]		[]	ĺ]	[]	[3
RECOMME	NDA'	ΓI	ONS	:	(If	dif	ferer	nt fr	om NA			_	
	ſ		/	3		[]	[]	[]	[ADD/I) DELETE)
* CIL R		ΝT	NOI	RA!	rioni	ALE:	(If	appl	licabl		ADEQUATI NADEQUATI]
NO DIFF	ERE	NC	ES.										

Assessm Assessm Nasa FM	LEN'	r :	ID:	;	A.	/29/ RCS- 5-6K	12	206	52X 257	F-1					:	NAS BA	A DA SELI	ATA: INE IEW	[, ,	
SUBSYST MDAC ID ITEM:					12	RCS 2062 IODE													(*	•]	
LEAD AN	ALY	SI	: :		D.	HA	RT	'MA	N												
ASSESSM	ENT	:																			
		F	LI	GH'		•		R	EDU	JNDA	NC	Y	sc	REEN	īS				CIL		
		HD	W /]	FUI	NC			A				В			С			•	[TE	M	
NASA IOA		3	/1	lR lR]		[P P]]	P P]	[P P]]		[]	*
COMPARE	[/]		[]		[]	[]		[]	
RECOMMEN	DAI	PIC	ons	:	ı	(If	đi	fí	er	ent	f	ro	m]	NASA)						
			/				[[]	(] ADD	/DE] LE	TE)
* CIL RE	ren	ΤI	ON	R	ATI	ONA	LE	:	(I1	f ap	p]	Li	cak	ole)							
REMARKS:	REN	CE:	s.											IN	AD IAD	EQU EQU	JATE JATE]]	

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12	063X 2257F-2		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12063 DIODE				
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /2R IOA [3 /3] [P]	[P] []	[P] []	[] *
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[3 /3] []	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULI	TIPLE FA	LURES.	THIS FAILURE	ALONE HAS NO
AT MEETING WITH	SUBSYSTI	em managi	ER ON 1/2	0/88, NSTS 2	2206 WAS

DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ENT]	[D:	AI	/29/8 RCS-1 5-6K	L20	64X 2570	G - 1						DATA ELIN NEV] K]
SUBSYSTI MDAC ID: ITEM:			12	RCS 2064 CODE											
LEAD ANA	LYSI	: :	D.	HAR	TM	AN									
ASSESSME	ENT:														
	F	ICAL LIGH	T		I	REDU	INDAN	CY	sc	REEN	s			CII	-
	HD	W/FU	NC		7	4		В			С				•
NASA IOA	[3	/3 /1R]		[[E))	[P]	[P]] [] *]
COMPARE	[/N]		[]	ı j	[N]	[N]		(1
RECOMMEN	DATI	ons:		(If	dif	fer	ent	fro	om	NASA))				
	[/]		[]	[]	ĺ]	(A	[.DD/D] ELETE)
* CIL RE	TENT	ION I	RAT	IONA:	LE:	(I	f ap	pli	ica	-			JATE JATE	[]
REMARKS: LOSE GPC	COM	MAND	то	CLO	SE	THE	VAL	VE	то	ISOL	ΙA	E A	THR	USTE	R LEAK.

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSME ASSESSME NASA FME	NТ	ID		ARC	:S-1	8 2065 - 225				N	IASA DA BASEL I	INE]	
SUBSYSTE MDAC ID: ITEM:				ARC 120 DIC	65										
LEAD ANA	LYS	T:		D.	HAR	TMAN									
ASSESSME	NT:	;													
	CRI		CAL			RE	DUNI	DANCY	SCRE	ENS			CIL		
	I		LIGH V/FU			A		В		(С				
NASA IOA	[3	/3 /3]		[]] []]]		[] *	
COMPARE	[/]		[1	ſ]	[1		[]	
RECOMME	NDA'	ri	ons:		(If	diff	ere	nt fr	om NA	SA)					
	[/]		[]	[]	[]	(A	[DD/E] ELET	E)
* CIL R		NT	ION	RAT	ION	ALE:	(If	appl	icabl		ADEQUA IADEQUA		[]	
CLUMILLO	•														

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	' I	D:	7	ARCS-	-12	06	6X 57	H-1					ASA D BASEI	INE			<u> </u>
SUBSYST MDAC ID ITEM:				1	RCS 2066 DIODE											•	,	
LEAD AN	ALY	ST	:	E	. на	\RT	MA	N										
ASSESSMI	ENT	:																
		F	LIG	LIT HT UNC					JNDAN		SC	REEN				CI:		
			•				A			В			С					
NASA IOA	[3 3	/2 /2	R] R]		[P P]]	P P]	[P P]	,	[]	*
COMPARE	(/)		[]	[]	[]		[J	
RECOMMEN	DA'	ric	SMC	:	(If	d:	ifi	fer	ent :	fro	om 1	NASA)	ì					
)					[]	(AI	[DD/E] DELF	ETE)
* CIL RE	TEN	T]	ON	RAT	TION	ALE	E:	(I	f app	li	.cak			EQUAT		<u></u>]	
REMARKS: NO DIFFE	REN	ICE	s.									ΤN	AU	EQUAT	Ľ	ĺ]	

ASSESSMEN ASSESSMEN NASA FMEA	T ID	TE:	ARCS-	′88 -12067 (A-225	'X 57H-2	!	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM MDAC ID:	[:		ARCS 1206' DIOD										
LEAD ANAI	LYST:		D. H.	ARTMA	N								
ASSESSME	1T:												
(CRIT			R	EDUN	DANCY	SCRI	EENS			CIL		
		LIGH W/FU		A	•	В	i	C	:				
NASA IOA	[3 [3	/3 /3]	[]]]	[[]		[] *]	
COMPARE	[/	3	[]	[3	[]		[]	
RECOMMEN	DATI	ons	: (If di	ffere	ent fi	com N	IASA)					
	ι	/]	[]	[3	C]	(A] DD/I) DELEI	Έ)
* CIL RI	ETENI	MOI	RATI	ONALE	: (I	f app	licak		ADEQU ADEQU	ATE ATE	[]	
REMARKS NO DIFF	: EREN	CES.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ADOC 100com	NASA DATA: BASELINE [] NEW []	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12068 DIODE	<u></u>	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT	TTY REDUNDANCY SCRE	EENS CIL	
HDW/FUN	IC A B	C ITEM	
NASA [/ IOA [3 /1R] [] []] [P] [NA]	[] [] * [P]	
COMPARE [N /N] [и] [и]	•	
RECOMMENDATIONS:	(If different from NA	SA)	
] [P] [NA]		
* CIL RETENTION RA	ATIONALE: (If applicable	e)	
REMARKS: ONE DIODE FATLING	ODEN UNG WO	ADEQUATE [] INADEQUATE [] ECOND DIODE FAILING OPEN SE THE VALVE TO ISOLATE	Γ A
SUBSYSTEM MANAGER MANIFOLD 5 ISOLATI RECOMMENDS THIS FA	STATED THAT THE DIODE WON VALVE ASSEMBLY. FOR ILURE BE INCORPORATED I	AS PART OF THE COMPLETENESS, IOA	

RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMEN ASSESSMEN NASA FME	1T	ID			:S-1:	3 2069:	x				NASA DA BASELI		_]	
SUBSYSTEM MDAC ID: ITEM:	1:			ARC 120 DIC	69										
LEAD ANA	LYS	T:		D.	HAR	TMAN									
ASSESSME	NT:	;													
(CR]		CAL			RE	DUNI	DANCY	SCREE	NS	}		CIL	4	
	I	_	IGH V/FU			A		В			С				
NASA IOA	[3	/]		[]	[]	[[]		[]	*
COMPARE	[N	/N] .		[]	[]	[]		[]	
RECOMMEN	DA'	ΓI	ons:		(If	diff	erei	nt fr	om NAS	A)	ı				
	[3	/3	3		[]	[]	[]	(Al	[DD/D] ELI	ETE)
* CIL RE	TE:	NT:	ION	RAT:	IONA	LE:	(If	appl	icable		ADEQUA NADEQUA		[]	
REMARKS: DIODE FA	ΙL	IN	G SH	ORT	HAS	NO NO	EFF	ECT.							

SUBSYSTEM MANAGER STATED THAT THE DIODE WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-120 NONE	70X		NASA DATA BASELINE NEW	[]
	ARCS 12070 DIODE				
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICALI FLIGHT	TY	REDUNDAI	NCY SCREE	ns	CIL
HDW/FUN		A	В	С	ITEM
NASA [/ IOA [3 /1R] [1] [] NA]	[] [P]	[] *
COMPARE [N /N] [1	4] [[א]	[и]	[]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)	
[3 /1R] []	ן ני	NA]	[P] (AI	[] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If ap	plicable		
REMARKS:			ı	ADEQUATE INADEQUATE	[]
ONE DIODE FAILING (THE REDUNDANCY) THRUSTER LEAK.	OPEN HAS CAUSES IN	NO EFF	ECT. SEC TO CLOSE	COND DIODE F E THE VALVE	'AILING OPEN TO ISOLATE A
SUBSVSTEM MANACED	STAMED M	113/D MIT	D7455		

SUBSYSTEM MANAGER STATED THAT THE DIODE WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12071X NASA FMEA #: NONE							N.	ASA DATA BASELINE NEW	: [[]
SUBSYSTEM MDAC ID:	:	ARCS 12071 DIODE								
LEAD ANAI	LYST:	D. HAI	RTMAN	Ī						
ASSESSME	T:									
(CRITICAL		RE	EDUND	ANCY	SCREE	ENS		CIL	
	FLIGH HDW/FU		A		В		(
NASA IOA	_		[]	[]	[]].] *
COMPARE	[и /и]	[3	[]	[]	[]
RECOMMEN	DATIONS	: (If	dif	feren	nt fr	om NA	SA)			
	[3 /3		[1	[1	[] (2	[ADD/I] ELETE)
* CIL RE	ETENTION	RATION	IALE:	(If	app]	licabl		ADEQUATE ADEQUATE]
REMARKS: DIODE FA	: AILING S	HORT H	AS NO	EFF	ECT.					

SUBSYSTEM MANAGER STATED THAT THE DIODE WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA

RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

REPORT DATE 2/26/88

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:				: 1 A	1/29/88 ARCS-12072X 05-6KA-2280-1							1	NASA DATA: BASELINE [] NEW [X]								
SUBSYST MDAC ID ITEM:	EM:	;		1:	RCS 2072 IRCU		' E	BREA	KEI	₹.									•	•	
LEAD AN	ALY	SI	?:	D.	НА	RI	MA	N													
ASSESSM	ENT	:																			
	CR		'ICAI 'LIGH				R	EDU	NDA	NO	CY	S	CRE	EN.	s			С	IL	,	
			W/FU				A				В				С			ľ	TE:	M	
NASA IOA	[3 2	/1R /2]		[P]]	P]		[P]]	x]	*
COMPARE	[N	/N]		[N]		[N	J	-	[N]		[N]	
RECOMMEN	DAT	CIC	ONS:		(If	đi	ff	ere	ent	f	ro	m	NAS	A)							
			/2]						_]	(AD	[D/	A DE] LE	TE)
* CIL RE	TEN	TI	ON F	(TAS	ONA	LE	:	(If	ap	g.	li	ca	ble								•
REMARKS:														IN.	AD	EQUA:	ΓE	[[]	
LOSE CAP	ABI V T	LI HU	TY I S LO	o o SS	PEN OF	T MI	HE SS	VA ION	LVE OB	JE	EC:	TH: TIV	IS : VES	PR	EV.	ENTS	VER	NI:	ER		
TECHE TO	m T	-																			

ISSUE IS TIED TO THE IOA HARDWARE CRITICALITY FOR THE FAILED CLOSED MANIFOLD 5 ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATA: [NE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12073 CIRCUIT BREAK	ER							
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICAL	J	DANCY SCREENS	CIL ITEM						
FLIGH HDW/F		ВС							
NASA [3 /1] IOA [3 /3	R] [P]	[F] [P] [] []	[X] *						
COMPARE [/N] [N]	[N] [N]	[N]						
RECOMMENDATIONS	: (If different	ent from NASA)							
[3 /3	. j . [1	[] []	[D] (ADD/DELETE)						
* CIL RETENTION	RATIONALE: (I	f applicable) ADEQU INADEQU	ATE []						
REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO EFFECT.									
AT MEETING WIT	H SUBSYSTEM MAN WAS AGREED UPO	VAGER ON 1/20/88, NS ON THAT THE ISSUE (N INTERPRETATIONS OF N	STS 22206 WAS MULTIPLE FAILURES) NSTS 22206.						

WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.
THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	: ARCS-	88 12074X		NASA DATA BASELINI NEW	A: E [] V []
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12074 SWITC	H, SOLENOII	O TALKBACK		· . ,
LEAD ANALYST:					
ASSESSMENT:					
CRITIC FLI	ALITY GHT	REDUNDAN	CY SCREENS	3	CIL
	FUNC	A	В	C	ITEM
NASA [/ IOA [3 /] 2R]	[] [[P]	P] [p]	[] *
		[и] [[]
RECOMMENDATIONS	5: (If	different :	from NASA)		
		[P] [[] D/DELETE)
* CIL RETENTION	RATIONA	LE: (If app	olicable)		, =====,
REMARKS:	_		INA	ADEQUATE ADEQUATE	[]
THIS FAILED MIC VALVE POSITION. CLOSED, POSSIBL	ROSWITCH THIS MA Y EFFECTI	CAUSES LOS Y LEAD TO NG MISSION	S OF ACCUR FALSELY FA OPERATION	ATE INDICATIONS THE	ATION OF THE VALVE

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12075X NONE	NASA BASE	DATA: LINE [] NEW []
	ARCS 12075 SWITCH, SOLENO	OID TALKBACK	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	ITY REDUNI	DANCY SCREENS	CIL I TEM
	NC A	В С	
NASA [/ IOA [3 /2R	[P]	[] [] [P]	[] *
COMPARE [N /N] [N]	[N] [N]	[]
RECOMMENDATIONS:	(If differe	nt from NASA)	
[3 /2F	[P]	[P] [P]	(ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQU INADEQU	
VALUE POSITION.	THIS MAY LEAD	LOSS OF ACCURATE TO FALSELY FAILINGS.	INDICATION OF THE NG THE VALVE

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE MANIFOLD 5 ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA

RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-1207					NASA DA' BASELII N	NE [] x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12076 L/R HE OX	& FU	ISO	r Ara	A	OR B SW	ІТСН	
LEAD ANALYST:	D. HARTMA	.N						
ASSESSMENT:								
CRITICALI FLIGHT		EDUND	ANCY	SCRE	ENS	3		IL TEM
HDW/FUN	IC A		В			С	Τ.	I EM
NASA [3 /1R IOA [3 /1R] [P]	[P]	[P] P]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If dif	ferent	fro	m NAS	SA)			
[/] []	[]	[[ADD/] /DELETE)
* CIL RETENTION R	ATIONALE:	(If a	ppli	.cable	•	ADEQUATE	٦	1
REMARKS: NO DIFFERENCES.						ADEQUATE		j

ASSESSME ASSESSME NASA FME	TK	ID	TE:	ARC	cs-1	20	77 02	X 6-2						SA DA' ASELI N					
SUBSYSTE MDAC ID:				AR(12(L/I	377	C	X	& FU	Ι	S01	Z VLV	A	OF	B SW	TTC	Н			
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	Ī											
ASSESSMI	ENT	:																	
	CR		CALI				RF	DUND	AN	ICY	SCRE	ENS				CI IT		1	
	1	HDW	/FUI	NC			A			В			С						
NASA IOA	[2 2	/1R /1R]		[P P]	[P P]	[[P P]		[X X]	*
COMPARE	[/]		[]	(]	Į		}		[]	
RECOMME	NDA	TIC	ons:		(If	d :	if	ferer	nt	fr	om NA	SA)						
	[/]		[]	1	[]	[]	(A	[DD/	/D	ET1	ETE)
* CIL R		NT:	ION	RAT	ION	ΑL	E:	(If	aj	ppl	icabl			DEQUA']	
REMARKS	:																		

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	I	D:	A.	RCS-	12	07	8X 26	-2				N		A DA SELI N		[x]	
SUBSYST: MDAC ID ITEM:				1	RCS 2078 /R H		ox	&	FU :	ISC	L'	VLV 1	A 0	R E	s sw	ITC	Н			
LEAD AN	ALY	ST	:	D	. HA	RT	MA	N												
ASSESSMI	ENT	:																		
	CR		ICAL LIGH		Ž		R	EDI	JNDAI	ICY	S	CREEN	ıs					IL EM	•	
	1	HDI	W/FU	NC			A			В			С			•	_ 1	, E.P.	ı	
NASA IOA]	2 2	/1R /1R]		[P P]	[P]	[P P]			[X X]	*
COMPARE	[/]		(]	[]	נ)			[]	
RECOMMEN	[ACI	ric	ons:		(If	d:	ifí	fer	ent	fr	om	NASA)							
	[/]		[]	[]	[]	(] ADI		DE		TE
* CIL RE	TEN	TI	ON F	TAS	ION	\LE	Ξ:	(I	f ap	pl:	ica	ble)								
															UATE JATE		:]	
REMARKS: NO DIFFE	REN	ICE	s.									4.	··AL	, an Q	ONIE	, (1	

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	:		ARC	9/8 S-1 -6KA	20										DAT LIN NE	E	[]	K]	
SUBSYSTEM MDAC ID: ITEM:	:				ARC 120 L/I	170	0	x	&	FU	IS	OL	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	A	OR	В	SWI	TC	:H			
LEAD ANAI	ΥS	T:			D.	HAR	TM	IAN	Ī													
ASSESSMEN	T:																					
c	RI				ĽΤΥ			RE	DU	ND	ANC	CY	SCRE	EN	5				CI		[
	F			GH? FUI				A				В			С							
NASA IOA	[2	//	1R 1R]		[P P]		[P P]	[[P P]			[X]	*
COMPARE	[N	/]		[]		[]	[3			[N]	
RECOMMEN	DA:	rI	ИС	s:		(If	d :	if:	feı	ren	t	fr	om Ni	ASA)							
	[/]		[]		[]	[]		(A	[DD/	'DI	ELI ELI	ETE)
* CIL RE	TE	ΝT	IC	N	RAT	ION	ΑL	Е:	(:	Ιf	ар	pl	icab		A		TAU TAU		[]	
REMARKS: IOA AGRE	ES	W	ΓI	'H	NAS	A F	ME	Α.						,								

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	DA II #:	ATE:	1 A 0	/29/8 RCS-3 5-6K	38 12 4-:	08 20	0X 26-2	?					N		A DAT SELIN NE]	
SUBSYSTI MDAC ID: ITEM:	EM:			A:	RCS 2080 /R HI								LV A	٥ ۵	R E	s swi	тсн			
LEAD ANA	LY	ST:		D	. HAF	(T	AP.	N												
ASSESSME	ENT	:																		
		FL	CAL IGH /FU	T	Y		RI A	EDUN	DAI		Y B	sc	REEN	s c				IL Pen	1	
NASA IOA	[2 2	/1R /1R]		[P P]	[• •	P P]	[P P]		[X X]	*
COMPARE	[,	/]]]	(]	[]		[]	
RECOMMEN	DAI	lOI.	NS:		(If	di	fí	fere	nt	f	rc	m 1	NASA)						
	[/	/]		[]	[]	[]	(A	[\DD/	DE] LF	TE;
* CIL RE	TEN	TIC	ON F	TAS	'IONA	LE	:	(Iḟ	ap	p.	li	cal		AI IAV	EQU EQU	JATE JATE	[]	

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FME	I Tr	D:	1/29/8 ARCS-1 05-6KA	2081					SA DATA ASELINI NEV]
SUBSYSTEMDAC ID:	M:		ARCS 12081 L/R OX	& F	т тк	ISOI	Z VĽV	1/2	SWITCH		
LEAD ANA	LYST	':	D. HAR	TMAN	ī						
ASSESSME	NT:										
		ICALI		RI	EDUND	ANCY	SCREE	ens		CIL	
	_	W/FUN		A		В		С			
NASA IOA	[3	/1R /1R]	[P]	[P]	[P [P]	[] *
COMPARE	[/	1	[]	[]	[]	[]
RECOMMEN	DATI	ons:	(If	dif:	feren	t fr	om NAS	5A)			
	[/]	[]	[]	[] ([ADD/I] DELETE)
* CIL RE		rion :	RATION	ALE:	(If	appl	icabl	A.	DEQUATE DEQUATE]
REMARKS:	;										

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	' D' I	ATE: D:	1/ AR 05	29/88 CS-12 -6KA-	3 208 -20	2X 28-	2			;	NASA BASE	LINE]	
SUBSYSTI MDAC ID ITEM:	EM:			AR(CS 082							2 SWI	тсн			
LEAD AND	ALY	ST	:	D.	HART	MA	N									
ASSESSMI	ENT	:														
	CR		ICAL:			R	EDU	NDAN	CY	SCR	EENS			CII	ı	
	;		W/FUI	_		A			В		(2		ITE	M	
NASA IOA	[3 2	/1R /2]]	P]	[P]	[I	?]		[[x] *	
COMPARE	[N	/N]	(N]	[N]	[]	1]		[N]	
RECOMMEN	DA:	ric	ons:	([If d	if	fere	ent :	fro	om N	ASA)					
	[2	/2]	[]	ι]	ľ]	(AI	[A DD/D] ELETE)	
* CIL RE	TEI	ľ	ON F	RATI	ONAL	E:	(If	app	ol i	.cab	le)					
REMARKS:												DEQUA		[]	
SWITCH F CLOSE TH MISSION. CAUSE IN	e v	NA	JVE. BILI	TH TY	IS P	REV ROS	/ENI SSFE	'S CR ED D	≀os	SFEI	ED CA	SES I PABII TLS/T	TTV.	THI	PPOT	OF

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12083 05-6KA-202			NASA DATA: BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12083 L/R OX & I	TU TK IS	SOL VLV	1/2 SWITCH	
LEAD ANALYST:	D. HARTMAI	1			
ASSESSMENT:					
CRITICAL		EDUNDAN	CY SCREE	ns	CIL ITEM
FLIGH HDW/FU			В	С	
NASA [3 /1R IOA [2 /2] [P]	[P] []	[x] *
COMPARE [N /N] [N] [и ј	[N]	[и]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)	
[2 /2] [] [3	[] (A	[A] .DD/DELETE)
* CIL RETENTION	RATIONALE:	(If ap	plicable	e) ADEQUATE INADEQUATE	[]
REMARKS:		ODEN C		CAUGES THAT	אדז.דייע יייס

SWITCH FAILED SHORT ACROSS OPEN CONTACTS CAUSES INABILITY TO CLOSE THE VALVE. THIS PREVENTS CROSSFEED CAPABILITY THUS LOSS OF MISSION. INABILITY TO CROSSFEED DURING AN RTLS/TAL ABORT MAY CAUSE INCOMPLETE OMS ABORT DUMP.

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ent Ent Ea	' D' I #:	ATE:	1, Al 0:	/29/ RCS- 5-6K	88 12 A-	08 20	4X 28-:	2						ASA DA BASELI		[
SUBSYSTE MDAC ID:	M:			1:	RCS 2084								1/	2	SWITC	:H				
LEAD ANA	LY	ST	:	D.	HA]	RT.	MA:	N												
ASSESSME	NT	:																		
	CR		ICAL LIGH		Z		R	EDUN	1DAN	CY	sc	REE	NS				CII ITE	_		
•	1	HD	W/FU	NC			A			В				С			TIE	.PI		
NASA IOA	[[3 2	/1R /2]		[P]	[[P]		[]	P]		[[X]	*	
COMPARE	[N	/N]		[N]	[N]		[]	N]		[N	.]		
RECOMMEN	DA:	ric	ons:		(If	di	ff	ere	ent i	fro	om :	NASZ	A)							
	[2	/2]		[]	(]	1	•				[A D/D		ETE)	
* CIL RE	TEN	T	ON F	TAS	IONA	LE	::	(If	app	ol i	.cal	ble)							·	
REMARKS:												1	P NP	ΙD	EQUATI EQUATI	2	• :]		
SWITCH FACLOSE THE MISSION. CAUSE INC	ĽV	NA.	.ve. BILI	T. TY	HIS TO	PR CR	EV OS	ENT:	S CR	los	SFI	CER	CZ	D	ES IN? ABILIT LS/TAI	ח עיי	TETT	- т	000	01

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1208 05-6KA-20				: [x] [x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12085 L/R OX &	FU TK	ISOL VLV	1/2 SWITCH	
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAL		EDUNDA	ANCY SCREE	ens	CIL ITEM
FLIGH HDW/FU	_		В	С	
NASA [3 /1F IOA [3 /1F	R] [F))	[P] [P]	[P] [P]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS	: (If dif	fferen	t from NA	SA)	
[/] [1	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATIONALE	: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: NO DIFFERENCES.					

ASSESSMI ASSESSMI NASA FMI	EN]	!]	D:	A	RCS-	-12	208	6X 253	-1					ASA BASI	ELIN]	
SUBSYSTI MDAC ID: ITEM:	EM:			1	RCS 2086 IODE		· I	IM:	IT SW	IIT	CH	(OPE	N	CIRC				-	
LEAD ANA	LY	ST																	
ASSESSME	ENT	:																	
	CR		ICAL LIGH				R	EDU	UNDAN	CY	S	CREENS	S			CI		_	
	:	HD	W/FU	NC			A			В			С			rı	EM	[
NASA IOA	[2 3	/1R /3]		[P]	[F]	[P]		[X] *]	
COMPARE	[N	/N]		[N]	[N]	[N]			N	_	
RECOMMEN	DAT	CIC	ONS:		(If	di	lf1	er	ent :	fro	m	NASA)							
			/3			[]	[J	[]	(A	[.DD/] LETE	:)
* CIL RE	PEN	TI	ON F	TAS	IONA	LE	::	(I	f app	oli	ca								
REMARKS:												IN.	AD	EQUA EQUA	TE	[:]	
NASA FME? EFFECT.	A C	ON	TAIN	is i	MULT	ΊP	LE	F	AILUR	ES	•	THIS	F	AILU	RE .	ALO	1E	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	T	ID		ARC	9/88 S-12087 6KA-225					ASA D BASEI		[
SUBSYSTEM MDAC ID:	M:			ARC 120 DIO		MIT	SWIT	CH (OPEN	CIRCU	JIT)			
LEAD ANA	LYS	T:		D.	HARTMAN	ī								
ASSESSME	NT:	}												
CRITICALITY REDUNDANCY SCREENS FLIGHT														
	F		I/FU		A		В	ı	C	2				
NASA IOA	[[3	/3 /3]	[]	[[]	[]		[]	*
COMPARE	[/]	ſ]	ſ]	[1		[]	
RECOMMEN	DA'	ri	ons:		(If dif	fere	ent fr	om N	IASA)					
	(/]	[]	[]	[]	(A	[.DD/1	DEL.	ETE)
* CIL RE		NT:	ION	RAT	IONALE:	(Ii	f app]	Licab		ADEQU ADEQU]	
VERBINO (•													

NO DIFFERENCES.

ASSESSMI ASSESSMI NASA FMI	ENT	ľ	D:	A	RCS-	12	08	8X 53-	1								DA! ELII NI		x]	
SUBSYSTE MDAC ID:				1:	RCS 2088 IODE		L	IMI'	r s	MI	T	СН	(CL	.O.	SE	D C	IRCU	JIT)			
LEAD ANA	LY	ST	:	D.	. HA	RT	MA	N													
ASSESSME	ENT	:																			
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C																					
	1	HD	W/FU	NC			A				В				C					_	
NASA IOA	[2	/1R /3]		[P]		:	P]		[P]]	x] *]	
COMPARE	[N	/N]		[N]	[•	N]		[N]		[N]	
RECOMMEN	DAT	rio	ons:		(If	di	ifí	ere	ent	f	rc	m	NASZ	A)							
	[3	/3]		[]	(]		[]	(.		D /DE] LETE	:)
* CIL RE	TEN	ΙΤÌ	ON F	RAT	IONA	LE	: :	(If	ap	p.	li	ca	ble)		٠						
REMARKS:													1				ATE ATE]	
NASA FME	A C	ON	İTAIN	is :	MULT	'IF	LE	FA	ILU	RI	ES	•	THI	S	F	AIL	URE	AL	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1: 05-6KA	2089	X 3-2				ASA DAT. BASELIN NE		x]	
SUBSYSTEM:	ARCS									
ITEM:	DIODE	- LI	MIT :	SWITC	CH (CL	OSEI	CIRCU	IT)		
LEAD ANALYST:	D. HAR	TMAN								
ASSESSMENT:										
CRITICAL		RE	DUND	ANCY	SCREE	ns		CI IT	L EM	
FLIGH HDW/FU	_	A		В		С				
NASA [3 /3 IOA [3 /3]	[]	[]	[]]		*
COMPARE [/	1	[]	[]	[]	[]	
RECOMMENDATIONS:	(If	diff	eren	t fr	om NAS	SA)				
[/]	[]	[]	[1	[(ADD/	DEL 'DEL	ETE)
* CIL RETENTION REMARKS:	RATION	ALE:	(If	appl	icable.		DEQUAT]	

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' D' ' I	ATE: D:	1, A	/29/ RCS- 5-6K	88 12 A-	09 22	0X 53.	A- 1						DATA ELINE NEW	[x]		
SUBSYST				1.	RCS 2090 IODE	-	G	PC	clos	E										
LEAD AND	ALY	ST	:	D	. HA	RT!	MA.	N												
ASSESSMI	ENT	:																		
	CR	IT: F:	ICAL LIGH	ITY T	Z		RI	EDI	UNDAN	CY	sc	CREEN	s			CI				
	1		W/FU				A			В			С			IT	EM			
NASA IOA	[3	/2R /1R]]	P P]	[P N] A]]	P P]		[:] ;	t	
COMPARE	[/N]		[]	ĺ	N]	[]		[]	İ		
RECOMMEN	IDA:	ric	ONS:		(If	di	ff	er	ent	fr	om	NASA)							
	[/	3		[]	[]	[]	(AI	[DD/1	DEI	ĿΞΊ	E)	
* CIL RE	TE	1T]	ON I	TAS	IONA	LE	:	(I	f app	91 :	ica:	ble)								
REMARKS:													IAI	EQU	JATE JATE	Ĩ	-			
LOSE GPC MANUAL C THRUSTER	OFT	TVT	. עו	TO LO	CLO SS O	SE F	AL.	HE L	VALV REDUI	Æ.	NC.	REDUN Y PRE	IDA EVE	NCY NTS	PROV	IDI ATI	ED [ON	WI O	TH F A	١.
SUBSYSTE THRUSTER	غلىا	AK	BEC	AU	SE T	IM	E	TO	EFFE	CI	' IS	IS NO	T TO	USE 24	D TO HOUR	ISC S (LA SO	TE FT	A War	E

THIS RATIONALE.

HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON

ASSESSME ASSESSME NASA FME	NT II):	ARCS	/88 -1209: KA-22:		2			ASA D BASEI		[]	
SUBSYSTE MDAC ID:			ARCS 1209 DIOD		PC C	LOSE							
LEAD ANA	LYST	:	D. H	[ARTMA]	N								
ASSESSMI	ENT:												
	CRIT	ICAI LIGH		R	EDUN	DANCY	SCR	EENS			CIL		
		W/FU		A		В		C	3				
NASA IOA	[3 [3	/3 /3]	[[]	[]	[[]		[]	*
COMPARE	[/)	[]	[]	[]		[]	
RECOMME	NDATI	ons:	: (]	rf dif	fere	nt fr	om N	ASA)					
	[/	1	[]	[]	[]	(A	[DD/I		TE)
* CIL R	:		RATIO	ONALE:	(If	appl	icab	į.	ADEQU ADEQU		[]	
NO DIFF	ERENC	ES.											

ASSESSM ASSESSM NASA FM	ENT	'I	D:	Al	RCS-	12	09	2X 531	B - 1					ASA DA BASELI	INE	: [[}] {]	
SUBSYST: MDAC ID ITEM:				12	RCS 2092 CODE		G	PC	OPE	N							-	
LEAD AND	ALY	ST	:	D.	НА	RT	MA	N										
ASSESSMI	ENT	:																
	CR		ICAL LIGH				R	EDU	INDAI	1CY	SC	REEN	S			CIL		
]	HD	W/FU	NC			A			В			С			TIE	M	
NASA IOA	[[3 3	/1R /1R]		[P P]		P]	[P P]		[]	*
COMPARE	[/]		[]	[•]	[]		[]	
RECOMMEN	IDA!	ric	ONS:		(If	đ:	ifi	fer	ent	fr	om 1	NASA))					
	[/]		[J	(]	[]		[D/D		e te j
* CIL RE	TEN	₹TI	ON I	RAT:	IONA	\LE	Ξ:	(I	f ap	pl:	ical			EQUAT		(]	
REMARKS: NO DIFFE	REN	ICE	s.									IN	AC	EQUAT	E	Ĩ]	

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	TE :	AR	29/8 CS-1 -6KA	209	3X 53B-2	2			ASA DAT BASELIN NE	IE [] X]		
SUBSYSTEM MDAC ID:	1:			AR 12 DI	093	- G	PC OI	PEN							
LEAD ANA	LYS	T:		D.	HAI	RTMA	N								
ASSESSME	NT:														
(CR]			LITY	?	F	REDUN	DANCY	SCF	REENS		CI	L EM		
	ŀ			HT		P	4	В		(2				
NASA IOA	[3	/3	3]		[]	[]]	[[]] [:]	*
COMPARE	[/]		[1	[)	[]	[]	
RECOMMEN	IDA'	TI:	ON	s:	(If	di	ffere	nt fr	om 1	nasa)					
	[/]		[.]	[]	C]	(ADD)	/DE] LE	TE)
* CIL RE		NT	10	n RA	TION	IALE	: (Ii	app]	lica		ADEQUAT]	

REPORT DATE 2/26/88 C-2647

NO DIFFERENCES.

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ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	ARCS	-1209	4X 53C-	-1			ASA DA BASELI N] x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 1209 DIODI		ANUA	L OPE	en				
LEAD ANALYST:	D. H2	ARTMA	N						
ASSESSMENT:									
FLI		R	EDUN	DANCY	SCF	REENS		CI	
HDW/	FUNC	A		В	}	С		ITI	₽M
NASA [3 /: IOA [3 /:	lR] LR]	[P [P]	[P]	[P]	[[] *
COMPARE [/]	[]	[]	[]	[]
RECOMMENDATIONS	3: (If	difi	fere	nt fr	om N	ASA)			
(/	-	[[ί		[(ADD/D] ELETE)
* CIL RETENTION	RATION	ALE:	(If	appl	icab.		EQUATE		1
REMARKS: NO DIFFERENCES.							EQUATE]

ASSESSMEN ASSESSMEN NASA FME	TN	ID	TE:	ARC	:S-1	8 2095 - 225		2				DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:	M:			ARC 120 DIC	95	– MA	AUM	L OPEN	ī						
LEAD ANA	LYS	T:		D.	HAR	TMAN	Ī								
ASSESSME	NT:														
	CRI		CAL	ITY		RE	EDUN	DANCY	SCF	REENS			CIL		
	H	_	/FU			A		В		C	:				
NASA IOA	[3	/3 /3]		[]	[]	[]		[]	*
COMPARE	[/]		[3	[]	[]		[]	
RECOMMEN	IDA!	ric	ons:		(If	dif	fere	ent fr	om 1	NASA)					
	ĺ		/]		. []	[]	[]	(A	[DD/D		ETE)
* CIL RE	TEI	NT:	ION	RAT	ION	ALE:	(I1	f appl	ical			JATE JATE]	
REMARKS:		NC:	ES.												

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARCS-1	8 2096X -2253D-1	l	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12096 DIODE -	- MANUAI	CLOSE		•
LEAD ANALYST:	D. HART	rman			
ASSESSMENT:					
CRITICA) FLIGH	LITY	REDUND	ANCY SCRE	EENS	CIL
HDW/FC		A	В	С	ITEM
NASA [3 /1F IOA [3 /1F	R] [P] P]	[P] [NA]	[P] [P]	[] *
COMPARE [/) []	[N]	[]	[]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[/] [)	[]	[] (AI	[] DD/DELETE
* CIL RETENTION	RATIONAL	E: (If	applicable		
DEWI Date				ADEQUATE INADEQUATE	[]
REMARKS: NO DIFFERENCES.					. ,

ASSESSMEN ASSESSMEN NASA FME	T	ID	TE:	ARC	9/88 5-12097 5KA-225	X 3D-2	2		N	IASA D. BASEL		[
SUBSYSTEM MDAC ID:	M:			ARC: 120: DIO:		NUA:	r cro	SE						
LEAD ANA	LYS	T:	:	D. 1	HARTMAN	ī								
ASSESSME	NT:	1												
	CR1			YTI	RI	EDUN	DANCY	SCR	EENS			CII		
	I		LIGH W/FU	NC	A		E	3 .	(С				
NASA IOA	[3	/3 /3]	[]	[]	[] .		[]	*
COMPARE	[/]	[]	[1	[]		[]	
RECOMMEN	DA!	ΓI	ONS:	: (If dif	fere	ent fi	com N	ASA)					
	[/	1	[]	[]	[]	(A	[.DD/1	DELI	ETE)
* CIL RE		NT	ION	RAT	ONALE:	(If	app:	licab		ADEQU ADEQU]	
REMARKS	:													

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12098X 05-6KA-2253E-1	NASA DATA: BASELINE [] NEW [X]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12098 DIODE - MANUAL OPEN/C	LOSE INHIBIT	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT		REENS CIL ITEM	
HDW/FUN	IC A B	c	
NASA [3 /1R IOA [3 /3] [P] [F]	[P] [X]* .[] []	
COMPARE [/N] [и] [и]	[и] [иј	
RECOMMENDATIONS:	(If different from)	NASA)	
[3 /3] [] []	[] [D] (ADD/DELETE)	
* CIL RETENTION R	ATIONALE: (If applicat	ole)	
REMARKS:		ADEQUATE [] INADEQUATE []	
	RS MULTIPLE FAILURES.	THIS FAILURE ALONE HAS N	O

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

SUBSYSTEM: ARCS MDAC ID: 12099													X]			
	M:		12	099	_	MA	NUAL	0	PEI	1/C]	LOSE	IN	HIBIT				
LEAD ANA	LYSI	: :	D.	HAR	TN	IAN	•										
ASSESSME	NT:																
		CAL				RE	DUND	AN	CY	SC	REENS	3		C]	L EM	Ī	
	_	LIGH W/FU				A			В			С				•	
NASA IOA		2 /1R 2 /2]		[P]]	F]	[P]	[[X X]	*
COMPARE	[/N]		[N]	[N)	[N]	[3	
RECOMMEN	DAT:	cons:		(If	d :	ifi	feren	t	fr	om	nasa))					
	[:	2 /2]	•	[]	[]	[] (A		X /DI		ETE)
* CIL RE	TEN	rion	RAT	MOI	ΑL	E:	(If	aŗ	pl	ica			DEQUATE DEQUATE	[]	
REMARKS: NASA FME INABILIT OPERATIO	A C	O CTC	SE	THE	V	AT.	VE TH	IUS	5 P	REV	ENTI	NG	FAILURE CROSSFE TLS/TAL	ED			

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

CAUSE INCOMPLETE OMS ABORT DUMP.

ASSESSMENT ASSESSMENT NASA FMEA	r id:	1/29/8 ARCS-1: 05-6KA	8 210 - 22	0X 53 F- 1			1	NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	:	ARCS 12100					en i	INHIBIT		
LEAD ANALY	ST:	D. HAR	[MA]	Ŋ						
ASSESSMENT	r:									
CF	RITICALI FLIGHT HDW/FUN	•	RI A	EDUND <i>I</i>	ANCY B	SCREE	ns (:	CIL ITEM	
NASA [IOA [3 /1R 3 /3] [[P]	[F]	[F)]	[X]	*
COMPARE [/N] (N]	[N]	[N	1]	[N]	
RECOMMENDA	TIONS:	(If d	liff	erent	: fr	om NAS	A)			
(3 /3) (•]	[]	[] (A	[D] DD/DELE	TE)
* CIL RETE	NTION R	ATIONAI	Æ:	(If a	.ppl:		A	DEQUATE	[]	
NASA FMEA EFFECT.	CONSIDE	RS MULT	'IPL	E FAI	LURI	es. T	HIS	FAILURE	ALONE	HAS

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW [X]										
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12101 DIODE - MANUAL	CLOSE/OPEN INHIBIT										
LEAD ANALYST:	D. HARTMAN											
ASSESSMENT: CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C X X X X X X X X X X X X												
	R] [P]	[F] [P] [] []	[X] * [N]									
COMPARE [/N] [N]	[N] [N]	[11]									
RECOMMENDATIONS	: (If differen	t from NASA)										
[3 /3] []	[] []	[D] (ADD/DELETE)									
* CIL RETENTION	N RATIONALE: (If	applicable) ADEQUA INADEQUA	TE []									
REMARKS: NASA FMEA CONSI EFFECT.	REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO											
AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.												

MOSESS!	ID:	2	05-6KA-2029-1							NAS BA	ASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: ARCS MDAC ID: 12102 ITEM: L/R OX & FU LEAD ANALYST: D. HARTMAN							FU	TK]	[SC)L V	/LV 3	/4/5			•	יני
LEAD AN	ALY	ST	:	D	. HAR	TMA	N.					. ,			,WII(-N
ASSESSM	ENT	:														
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Waga						A			В			С				
NASA IOA		3	/1I /1I	R] R]		P]	[P P]	[[P] P]		[]]	*
COMPARE	[/]	l	•]	[]	[]		[)	
RECOMMEN	DAT	'IO	es:		(If d	ifi	fere	nt 1	fro	om N	IASA)					
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* CIL RE	TEN	TI	ON	RAT	IONAL	E:	(If	app	li	cab	le)		•	-, -		_,
REMARKS: NO DIFFEI											2	ADEQU ADEQU	ATE ATE	[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-121	NASA DATA: 2103X BASELINE [] 2-2029-2 NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12103 L/R OX 8	FU TK	ISOL VLV 3	3/4/5 A OR I	3 SWITCH					
LEAD ANALYST:	D. HARTI	MAN								
ASSESSMENT:										
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM					
HDW/FU		A .	В	С						
NASA [3 /1R IOA [2 /2] [P]	[P] []	[P] []	[x]					
COMPARE [N /N] [и]	[и]	[и]	[и]					
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)						
[2 /2] []	[]	[] (A)	[A] DD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If a	applicable) ADEQUATE INADEQUATE						
REMARKS: SWITCH FAILED SHORT ACROSS OPEN CONTACTS CAUSES INABILITY TO CLOSE THE VALVE. THIS PREVENTS CROSSFEED CAPABILITY THUS LOSS OF MISSION. INABILITY TO CROSSFEED DURING AN RTLS/TAL ABORT MAY CAUSE INCOMPLETE OMS ABORT DUMP.										

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON

1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12104X 05-6KA-2029-2	2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID:	ARCS		3/4/5 A OR	B SWITCH
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL FLIGH	ITY REDUN	DANCY SCRE	ENS	CIL
HDW/FU		В	С	ITEM
NASA [3 /1R IOA [2 /2] [P]] []	[P] []	[P] []	[] * [x]
COMPARE [N /N] [n]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differe	nt from NAS	SA)	
[2 /2] []	[]		[A] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If	applicable	<u>:</u>)	·
REMARKS:			ADEQUATE INADEQUATE	
SWITCH FAILED SHO	RT ACROSS OPE	N CONTACTS	CAUSES TNART	T.TTV TO
CLOSE THE VALVE.	THIS PREVENTS	S CROSSFERD	CADARTTERV	THIC TACK OF
MISSION. INABILI	TY TO CROSSFE	ED DURING A	N RTLS/TAL A	BORT MAY

ISSUE NOT RESOLVED AT MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

CAUSE INCOMPLETE OMS ABORT DUMP.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12105A	NASA DASEL	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12105 L/R OX & FU TK	ISOL VLV 3/4/5 A	OR B SWITCH
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			OTT.
CRITICAL		ANCY SCREENS	CIL ITEM
FLIGH HDW/FU		В С	
NASA [3 /1F IOA [2 /2	R] [P]	[P] [P] [[x] *
COMPARE [N /N		[и] [и]	[N]
RECOMMENDATIONS	: (If differen	nt from NASA)	
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* CIL RETENTION	RATIONALE: (If	applicable) ADEQU	JATE [] JATE []
CLOSE THE VALVE	SHORT ACROSS OPE E. THIS PREVENT LLITY TO CROSSFE TE OMS ABORT DUM	DD D41121	INABILITY TO [LITY THUS LOSS OF /TAL ABORT MAY
ISSUE NOT RESO	LVED AT MEETING	WITH THE SUBSYSTE	M MANAGER ON

1/20/88.

ASSESSMENT DATE: 1/29 ASSESSMENT ID: ARCS NASA FMEA #: 05-6							/88 -12 (A-	3 21(-2()6X)29	-1					1	NAS BA	A D	INE] :	х ⁻]
SUBSYSTEM: ARCS MDAC ID: 12106 ITEM: L/R OX & FU TI LEAD ANALYST: D. HARTMAN								TK	ı	so	L V	LV 3	3/4	1/5				•	•		
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ASSESSM	ENT	:																			
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COMPARE											[]	[]			[]	
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]		•]	([D/[] DELE	TE)
* CIL RE	TEN	TI	ON	R	AT:	IONA	LE	:	(If	: a	pp:	li	cab)		AD	EQU	JATE	;	[]	·
REMARKS: NO DIFFE	REN	CE	s.											TIV	AU	ĿŲ(JATE	i	[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12107X 05-6KA-2254-1	nasa Bas	DATA: ELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS	SWITCH (OPEN CIR	CUIT)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	ITY REDUNE	ANCY SCREENS	CIL ITEM
HDW/FU	NC A	в с	
NASA [2 /1R IOA [3 /3	[P]] []	[F] [P] [] []	[X] *
COMPARE [N /N] [N]	[N] [N]	[и]
RECOMMENDATIONS:	(If differen	nt from NASA)	
[3 /3] []	[] []	[D] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADE INADE	QUATE [] QUATE []
REMARKS: NASA FMEA CONTA EFFECT.	INS MULTIPLE FA	ILURES. THIS FA	ILURE ALONE HAS NO
DISCUSSED. IT		TERPRETATIONS OF	

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT	ID	:	ARC	S-1210)8X 254-	NASA DATA: BASELINE [] NEW [X]							
SUBSYST				ARC 121 DIC		IMI	T SWI	rch	(OPEN	CIRC	UIT)	ı		
LEAD AND	ALY	ST:		D.	HARTMA	N								
ASSESSMI	ENT	:								•				
	CR	ITI FL:		LITY	R	EDU	NDANC	SCI	REENS			CI		
	I	HDW,	/Ft	INC	A		F	3	1	С	ITEN			
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RECOMMEN	[Ad]	OI	is:	(:	If dif	fere	ent fr	om N	ASA)					
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* CIL RE	TEN	TIC	N	RATIO	ONALE:	(If	appl	icab	P	DEQU		[]	
REMARKS: NO DIFFE	REN	CES							INA	DEQU <i>I</i>	ATE	[]	

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	re:	ARC	9/88 S-13 6KA	21)92 254	K 4-1	NASA DATA: BASELINE [] NEW [X]										
SUBSYSTEM MDAC ID:	!:				RCS 2109 DIODE - LIMIT SWITCH (CLOSE CIRCUIT D. HARTMAN									IT)					
LEAD ANAI	LYS	T:		D.	HAR	TM	AN												
ASSESSMENT:																			
CRITICALITY REDUNDANCY SCREENS CIL ITEM																			
FLIGHT HDW/FUNC A B C																			
NASA IOA	NASA [2/1R] [P]								[F]		[P]		χ]]	:]]	*	
COMPARE	[N	/N	1		[N	1	[N]		[N	1]		[]	1]		
RECOMMEN	ΙDΆ	TI	ONS	:	(If	d:	if:	ferer	ıt	fr	om	NAS	A)						
KECOLE			/3			C		1	[]		[1	(A	[] [\QQ.	D] DEI	LETE)
* CIL RI	ETE	ENT	NOI	RA?	MOIT	ΆL	E:	(If	ap	pl	ica	able		ADEQUA ADEQUA	TE TE	[1 :]	
REMARKS NASA FMI EFFECT.	: EA	cc	NTA	INS	MUI	ЛI	ΡL	E FA	ILU	JRE	s.	TH	ΊS	FAILU	RE	ALO	NE	HAS	NO
																		tita C	

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM NASA FM	LEN'.	r ID:	A D	70-12	110X 2254-	·2	NASA DATA: BASELINE [] NEW [X]								
SUBSYST MDAC ID ITEM:	EM:	•	ARC 121 DIC	-	LIMI	T SW	ГТСН	(CLOS	E CI]			
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ASSESSM	ENT	' :													
	CR	ITIC! FLIC	LITY		REDUI	NDANC	Y SC	REENS			CI	_			
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NASA IOA	[3 /3 3 /3]	[]	[]	[]		[]	*		
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* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icab				-		,		
REMARKS: NO DIFFEI	REN	CES.						A INA	DEQU2 DEQU2	ATE ATE	[]			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3DCC-121	11X		NASA DATA: BASELINE NEW	[x]
	ARCS 12111 DIODE -	GPC CLO	SE		
LEAD ANALYST:	D. HARTM	IAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /2R IOA [3 /1R] [P] P]	[P] [NA]	[P] [P]	[] *
COMPARE [/N] []	[N]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)	
(/] [1	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	ADEQUATE	
REMARKS: LOSE GPC COMMAND MANUAL COMMAND. THRUSTER LEAK.	TO CLOS LOSS OF	E THE VA	ALVE. REI DUNDANCY I	OUNDANCY PROPREVENTS ISO	VIDED WITH LATION OF A

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMI NASA FMI	ENT	ID:	ARCS	-121	12X 254A	-2			nasa d Basel			
SUBSYSTI MDAC ID: ITEM:			ARCS 1211 DIOD		GPC (CLOSE						
LEAD ANA	ALYS	T:	D. H.	ARTM	AN							
ASSESSME	ENT:											
		TICAL FLIGH		F	REDUN	IDANC'	Y SCI	REENS		CI		
		DW/FU	-	A	\	1	В	(ΙΊ	EM	
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* CIL RE	TENI	TION I	RATION	ALE:	(If	app1	icab		DEQUAT	Έľ	1	
REMARKS: NO DIFFE	RENC	CES.							DEQUAT		j	

ASSESSMEN ASSESSMEN NASA FMEA	ΙT	ID	TE:	AR	cs-1	21	13 25	X 4B-1						SA DA' ASELII N	NE	[x]	
SUBSYSTEM MDAC ID:	1 :			AR 12 DI	113	_	GF	C OP	EN									
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	H	IDW/FU		A		E	3	(2		ITEN	1	
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* CIL RE REMARKS: NO DIFFE			RATIC	NALE:	(If	appl	icab	A	DEQUAT		[]	

ASSESSME ASSESSME NASA FME	NТ	ID	TE:	AR	cs-1	21	.15 :25	X 4C-1	•								ΙE	[x		
SUBSYSTE MDAC ID:	M:			AR 12 DI	115	-	MA	NUAI	r c	PE	N									
LEAD ANA	LYS	T:	}	D.	HAR	T	IAN	ī												
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ASSESSMI	ENT	:											
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COMPARE	[/]	[]	[]	[]		[J
RECOMMEN	DAT	ric	ons:	(I	f dif	fere	ent fr	om N	(ASA)				
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REMARKS:	REN	ICE	ES.						INA	DEQU	ATE	Ì	j

ASSESSME ASSESSME NASA FME	NT	ID	:	AR	cs-1	21	17	X 4D-1							DATA LINE NEW] 3	x]	
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ASSESSME	NT:	;																	
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REMARKS	:																		

ASSESSM ASSESSM NASA FM	ENI	'I	D:	ARC	S-1211	L8X 2540) - 2		:	NASA I BASEI		[x]	
SUBSYST MDAC ID ITEM:				ARC 121 DIC	.18	IANU	AL CLO	SE						
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ASSESSMI	ENT	:												
	CR		ICA: LIGI	LITY	R	EDU	NDANCY	SCI	REENS			CI		
	1	HD	W/F	JNC	A	•	В		C	2		IT	em	
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REMARKS: NO DIFFE	REN	ICE	s.							~	_		J	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12119X 05-6KA-2254E-1	NASA DATA: BASELINE NEW	[x]
SUBSYSTEM:	ARCS 12119 DIODE - MANUAL OPEN/CLOSE	INHIBIT	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL	ITY REDUNDANCY SCREEN	0	CIL ITEM
FLIGH HDW/FU	INC A B	C	
NASA [3 /1R IOA [3 /3	[P] [F] [] [] [] [P]	[X] * []
		и]	[и]
RECOMMENDATIONS:	: (If different from NASA	7)	
] [] [] [. 1	[D] DD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONSI EFFECT.	DERS MULTIPLE FAILURES. T	HIS FAILURE	ALONE HAS NO
DISCUSSED. IT	SUBSYSTEM MANAGER ON 1/20 WAS AGREED UPON THAT THE I TO DIFFERENT INTERPRETATION ISSUE REMAINS OPEN.		

ASSESSM ASSESSM NASA FM	ENT ENT EA	r 1 r 1 #:	DATE:	: 1 A 0	/29/ RCS- 5-6K	/88 -12 (A-	3 212 -22	0X 54	K E-2				1	NASA BASE		[
SUBSYST MDAC ID ITEM:	EM:	:		A 1	RCS 2120)			UAL C				E 1	NHIB	[T				
LEAD AN	ALY	ST	':	D	. HA	RT	MA	N											
ASSESSMI	ENT	:																	
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COMPARE	[N	/N]		[N]	[N]	[N]		[
RECOMMEN	DA'	ric	ONS:		(If	đ:	iff	er.	cent :	fro	om	NASA	.)						
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CAUSE AN	ΤN	CO	MPLE	TE	oms	A	BO	RT	DUMP	•					,			\T/\T	. PLAI

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12121X 05-6KA-2254F-1	NASA DATA: BASELINE [] NEW [X]
MDAG TD:	ARCS 12121 DIODE - MANUAL CLOSE/OPEN	INHIBIT
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
	ITY REDUNDANCY SCREEN	S CIL ITEM
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REMARKS: NASA FMEA CONSI EFFECT.	DERS MULTIPLE FAILURES. TH	IIS FAILURE ALONE HAS NO
DISCUSSED. IT	SUBSYSTEM MANAGER ON 1/20, WAS AGREED UPON THAT THE IS TO DIFFERENT INTERPRETATION ISSUE REMAINS OPEN.	330D (130DIII)

ASSESSM ASSESSM NASA FM	ENT ENT EA	'	ATE:	1/ AF 05	/29/ RCS- 5-6K	88 12 A-	12 22	2X 541	F-2								A DELE		[]	
SUBSYST MDAC ID ITEM:				12	RCS 122 ODE	-	M	JNA	JAL	С	LO	SE,	/OPI	EN	I	NHI	BIT	ľ				
LEAD AN	ALY	ST	:	D.	HA	RT.	MA	N														
ASSESSMI	ENT	:																				
	CR	IT F	ICAL LIGH	ITY T	•		R	EDU	IND	AN	CY	S	CREE	ENS	5					[L		
	1	HD	W/FU	NC			A				В				С				Τ.	ľEN	1	
NASA IOA	[3	/1R /1R]]	P P]		[F F]]	P P]]	X X]	*
COMPARE	[/]		[]		(]		[]			[)	
RECOMMEN	IDA'I	CIC	ONS:		(If	đi	ifi	fer	ent	: 1	rc	m	NAS	A)								
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* CIL RE	TEN	TI	ON F	TAS	IONA	LE	:	(I	f a	pp	li	ca	ble									
REMARKS:																	JAT: JAT:		[]	
NASA FME VALVE TO CAUSES I CONSTRAI	A C CL NAB	II	·c.	KEL	JUND	AΝ	CY	PI	ROV	TD	FD		$-\mathbf{T} \mathbf{\Omega}$	CC	\sim	T 7	TT	DE	DIT		3 37	~

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-121	L23X		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12123 DIODE				
LEAD ANALYST:	D. HARTI	MAN			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	INS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /3 IOA [3 /2R] [p]	[] [P]	[] [P]	[] *
COMPARE [/N] [N]	[и]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[3 /2F	2] [P]	[P]	[P]	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: THIS FAILURE MAY POSITION. REDUN TO FALSELY FAILS OPERATIONS.	TO SERVE OF	กระการกา	1088 08	ALL KEDUNDA	TICT INTE TOTAL

ISSUE NOT RESOLVED WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ENT 1	D:	1/29/ ARCS- 05-6K	-12	12							ASA DA BASELI	INE	[[X]	
SUBSYSTI MDAC ID: ITEM:			ARCS 12124 DIODE													
LEAD ANA	ALYST	!:	D. HA	RT	MA	N										
ASSESSME	ENT:															
		'ICAL			R	EDUN	IDANC	CY	sc	CREEN	S			CIL		
		W/FUI			A			В			С]	TEN	1	
NASA IOA	[3 [3	/1R /3]	[P]	[[P]	[P]	[X] *	
COMPARE	[/N]	[N	1	[N]	[N]	[N]	
RECOMMEN	DATI	ons:	(If	d:	ifi	fere	nt f	rc	m	NASA)	l					
·	[3	/3]	[]	[]	C]] (ADD)	/DE] LETE	i)
* CIL RE	TENT	ION R	RATION	ALE	2:	(If	app	li	.ca			EQUAT]	
REMARKS: NASA FME EFFECT.	A CON	NTAIN	S MULI	TI	LE	FA:	ILUR	ES	•			-	-	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT	ID	TE:	AR	cs-1	21	.25	X 9 - 1								A DATA SELINI NE	E	[x]	
SUBSYSTE MDAC ID:	M:			AR 12 L/	125	: δ	. F	U CI	ROS	s	FE	ED	ATA	1	./2	SWIT	CH	32,	. 3	4
LEAD ANA	LYS	ST:		D.	HAR	T	IAN	Ţ												
ASSESSME	NT:	:																		
	CRI		[CAL]				RE	DUN	DAN	IC	Y	SC	REEN	S				CIL		
	I		V/FUN				A				В			(3					
NASA IOA		3	/1R /1R]		[P P]	[P NA]	[P]			[]	*
COMPARE	ſ		/]		[1	ſ	[N]	[)			[3	
RECOMME	IDA'	TI	ons:		(If	đ	if:	fere	nt	f	ro	om	nas <i>i</i>	Y)						
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* CIL R	ETE	NT	ION :	RA'	CION	AL	E:	(If	: a)	þį	,1 :	ica				EQUATI EQUATI]	
REMARKS	:																			

ASSESSMENT ASSESSMENT NASA FMEA	T I	D:	ARCS	/88 -12 KA-	12 20	6X 39-2						ASA DAT BASELIN NE		,]	
SUBSYSTEM: MDAC ID: ITEM:	:		ARCS 1212	6						VLV	1,	/2 SWIT	'CH 32	l, 3	34
LEAD ANALY	(ST	:	D. H.	ARTI	IAP	1									
ASSESSMENT	:														
	F	LIGH	ITY T NC		RI A	EDUNI)AN		SCRE	EENS			CII ITE	_	
	п	W / F U	NC		A			В			С				
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COMPARE [N	/N]	[N]	[N]	[N]	[·]	
RECOMMENDA	TIC.	ONS:	(II	đi	ff	eren	t 1	rc	m NA	SA)					
_ (2	/2]	[]	[]	[] (2	X ADD/D		TE)
* CIL RETE	NT)	гои і	RATION	ALE	:	(If	app	li	cabl	e)					
REMARKS:												EQUATE EQUATE	[]	
NASA FMEA THE VALVE CROSSFEED CROSSFEED 1/1 ABORT.	anl Caf	PABII	LITY T	HIIS	LI	TY T	OR OF	E-	OPEN	IT	•	THIS I	PREVE	NTS	

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12127X	NASA DATA: BASELINE [] NEW [X]
00001012	ARCS 12127 L/R OX & FU CROSSFEED VLV	1/2 SWITCH 32, 34
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
CRITICAL	ITY REDUNDANCY SCREENS	CIL ITEM
FLIGH HDW/FU	NC A B	c
NASA [3 /1R IOA [2 /2	[P] [F] [] [] [P] [X] *
COMPARE [N /N] [N] [N] [и][]
RECOMMENDATIONS:	(If different from NASA	
[2 /2] [] [] [] [X] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []
THE VALVE AND CA	INS MULTIPLE FAILURES. THI AUSE INABILITY TO RE-OPEN I ILITY THUS LOSS OF MISSION. AUSE INCOMPLETE OMS ABORT D	INABILITY TO
DISCUSSED. IT	SUBSYSTEM MANAGER ON 1/20/ WAS AGREED UPON THAT THE IS TO DIFFERENT INTERPRETATION ISSUE REMAINS OPEN.)

ASSESSM ASSESSM NASA FM	ENT	'I	D:		A	/29/ RCS- 5-6K	12	12	8X 39	-1					ASA BAS	ELI	NE	[x]	
SUBSYSTEMDAC ID					1:	RCS 2128 /R O		&	FU	CROS	SF	EEI) ATA	1,	/2 :	SWI	TCI	ł 3	2,	34
LEAD AND	ALY	ST	:		D.	на	RT	MA	N											
ASSESSMI	ENT	:																		
		F.	LI	GH'	r					UNDAN	CY	sc	REEN	3				CI:		
		HDI	W/:	FU	NC	٠		A			В			С						
NASA IOA	[3	/	lR lR]		[P P]]	P P]	[P P]			[]	*
COMPARE	[/]		[]	[]	[]			[]	
RECOMMEN	DA!	ric	SMC	s:		(If	đi	ifí	fer	cent	fro	om i	NASA)							
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* CIL RE	TEI	(TV	101	1 F	TAS	IONA	LE	Ē:	(I	f ap	pli	cal	ble)	y D	EO.	ra mer	7			
REMARKS: NO DIFFE	REN	ice	ß.										IN		EQU		<u>s</u>	[]	

ASSESSMEN	SSESSMENT DATE: 1/29/88 SSESSMENT ID: ARCS-12129X ASA FMEA #: 05-6KA-2039-1 SUBSYSTEM: ARCS													SA DA ASELI 1	NE			
SUBSYSTEM MDAC ID:	1:			10	120	: &	F	U CF	ROS	SFI	EED V)LV	1/	'2 SW	ITCI	H 32	, 34	•
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	ſ										
ASSESSME	NT:	}																
•	CRI		[CAL]		•		RI	EDUNI	AC	ICY	SCRI	EENS	3			CIL		
	F		LIGHT V/FUI				A			В			С					
NASA IOA			/1R /1R			[P P]	i	P]] [P P]		[] *	k
COMPARE	[/]		[] .	ļ	[]	[3		[]	
RECOMMEN	DA	ΓI	ons:		(If	d.	if	fere	nt	fr	om N	ASA)					
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* CIL RE	TE	NT	ION	RA!	rion	AL	E:	(If	a	pp1	icab			DEQUA DEQUA		[]	
REMARKS:																		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12130 05-6KA-220	0X 61 - 1	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12130 DIODE - LI	IMIT SWITCH	(OPEN CIRCUIT)	
LEAD ANALYST:	D. HARTMAN	1		
ASSESSMENT:				
CRITICALI FLIGHT	?	EDUNDANCY SO	REENS	CIL ITEM
HDW/FUN	IC A	В	С	1120
NASA [2 /1R IOA [3 /3] [P] [F]] []	[P] []	[X] * []
COMPARE [N /N] [N] [N]	[N]	[N]
RECOMMENDATIONS:	(If diff	erent from	NASA)	
[3 /3	-			[D] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If applical		
REMARKS:			ADEQUATE INADEQUATE	į
NASA FMEA CONSIDER EFFECT.	RS MULTIPL	E FAILURES.	THIS FAILURE	ALONE HAS NO
AT MEETING WITH ST	JBSYSTEM MA	ANAGER ON 1	/20/88 Nome of	226 1726

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

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SUBSYSTEM MDAC ID:	M:			ARC 121 DIO		MIT	SWIT	СН (OPEN	CIRCUI	T)			
LEAD ANA	LYS	T:		D.	HARTMAN	Í								
ASSESSME	NT:	:												
	CRI			ITY	RE	DUN	DANCY	SCR	EENS			CIL		
	Ŧ		JIGH V/FU		A		E	3	(C				
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* CIL RI		NT	ION	RATI	ONALE:	(I1	app	licab		ADEQUA'		[]	
REMARKS	•													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12132X	NASA DAT. BASELIN NET	
MDAC ID:	ARCS 12132 DIODE - LIMIT S	WITCH (CLOSED CIRCU	IT)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT		NCY SCREENS	CIL
HDW/FUN		В С	ITEM
NASA [2 /1R IOA [3 /3] [P]] []	[F] [P] [] []	[X] *
COMPARE [N /N] [N]	[и] [и]	[N]
RECOMMENDATIONS:	(If different	from NASA)	٠
[3 /3] []	[] [] (A)	[D] DD/DELETE)
* CIL RETENTION RA	ATIONALE: (If a		
REMARKS:		ADEQUATE INADEQUATE	[]
	RS MULTIPLE FAII	LURES. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1213: 05-6KA-22					SA DAT BASELIN NE		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12133 DIODE - L	IMIT	SWIT	CH (CI	OSEI	CIRCU	UIT)	
LEAD ANALYST:	D. HARTMA	N						
ASSESSMENT:								
CRITICAL FLIGH		EDUNE	ANCY	SCREI	ens			IL PEM
HDW/FU			В		С			
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *]
COMPARE [/] []	[1	[]	[]
RECOMMENDATIONS:	(If dif	fere	nt fr	om NA	SA)			
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* CIL RETENTION	RATIONALE	(If	appl	icabl	A	DEQUAT DEQUAT]

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SUBSYSTI MDAC ID: ITEM:				1:	RCS 2134 IODE		G	PC (CLO	SE							_	
LEAD ANA	ALYS	ST:	}	D.	. HA	RT.	MA	N										
ASSESSME	ENT:	:						•										
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	H	IDW	/FU	INC			A			I	3		С			IT	EM	
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COMPARE	ĺ		/]		[]	[N	1]	ĺ]		[]	
RECOMMEN	DAT	ΊO	ns:		(If	đi	l.f1	fere	nt	fr	om 1	NASA)					
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* CIL RE	TEN	TI	ON	RAT	IONA	LF	:	(If	ap	pl	icak			EQUA]	
REMARKS:	REN	CES	S.									TL	ıAL	EQUA	TE	[]	

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SUBSYSTEM MDAC ID:	M:			ARC 121 DIC		GPC	CLOS	SE							
LEAD ANA	LYS	T:		D.	HART	MAN									
ASSESSME	NT:	;													
	CR]			ITY		RED	UNDA	NCY	SCREE	NS			CIL ITEN	ſ	
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NASA IOA	[3	/3 /3]	[]		[[]	[]		[]	*
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RECOMMEN	IDA'	TI	ONS:	;	(If d	liffe	rent	fr	om NAS	SA)					
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12					ASA DATA BASELINI NEV]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12136 DIODE -	GPC OP	EN					
LEAD ANALYST:	D. HARTM	IAN						
ASSESSMENT:								
CRITICALI FLIGHT	TY	REDUND	ANCY	SCRE	ENS		CIL	
HDW/FUN		A	В		С		ITE	M
NASA [3 /1R IOA [3 /2R] [P] P]	[P]	[P]	[] *]
COMPARE [/N] []	ſ]	[]	ι]
RECOMMENDATIONS:	(If di	fferen	t fro	om NAS	SA)			
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SUBSYSTEM MDAC ID:	M:			ARC 121 DIC	.37	- GP	C OF	PEN							
LEAD ANA	LYS	T:		D.	HAR	TMAN	Ī								
ASSESSME	NT:	:													
	CR]		CAL			RE	DUNI	DANCY	SCRE	EENS			IL TEM		
	F		JIGH V/FU			A		В		•	С				
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COMPARE	[/]		[]	[3	[)	[]	ļ	
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REMARKS	:														

ASSESSM	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12138X VASA FMEA #: 05-6KA-2261C-1													ASA D BASEL	INE] X]		
SUBSYST: MDAC ID ITEM:				1	RCS 2138 IODE		M	ANU	UAL	OP	EN						-	•	
LEAD AND	ALY	ST	:	D	. HA	RT	MA	N											
ASSESSMI	ENT	:																	
	CRITICAI FLIGH HDW/FU						R A		JNDA			SCREE	ENS				CII	_	
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RECOMMEN	'DA'	ric	ons:		(If	di	ifi	fer	ent	fı	ron	NAS	A)						
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* CIL RE	TEN	ITI	ON :	RAI	ION	ALE	E :	(I	f ar	[gc	lic	able)			•	,		,
REMARKS: IOA AGRE								•		•	_ -				EQUAT EQUAT		[]	

	1/29/88 ARCS-1213 05-6KA-23				NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12139 DIODE - 1	MANUAL	OPEN				
LEAD ANALYST:	D. HARTM	AN					
ASSESSMENT:							
CRITICAL FLIGH		REDUNDA	NCY S	CREENS	5	CIL ITEM	ſ
HDW/FU		A	В		С		
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *]
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If di	fferen	t from	n NASA)		
[/] [)	[] [] ([ADD/D] ELETE)
* CIL RETENTION REMARKS:	RATIONAL	E: (If	applio		ADEQUATE NADEQUATE]

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SUBSYST: MDAC ID ITEM:				1:	RCS 2140 IODE		M	ANU	JAL	C	LOS	SE							-
LEAD AN	ALY	ST	:	D	НА	RT.	MA.	N											
ASSESSMI	ENT	:																	
		F	ICAL LIGH	T	ľ		R	EDU	NDA	LN(CY	SC	REEN	S			CI IT	L	
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NASA IOA		3	/1R /1R]]	P P]]	P NA]]	P P]		[*
COMPARE	[/	J		ĺ]		[N]	Į]		[]	ļ
RECOMMEN	DA?	ric	ONS:		(If	đi	Ĺfí	er	ent	f	ro	m N	NASA)	ı					
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* CIL RE	TEN	T]	ON 1	RAT	IONA	LE	:	(I:	f a	pp	li	cab			EQUA		[]	
REMARKS: NO DIFFE	REN	ICE	s.										,			- 	Ĺ	J	

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SUBSYSTEM MDAC ID:	M:			ARC 121 DIC	41	- MA	NUAL	. CLOS	SE						
LEAD ANA	LYS	T:		D.	HAR	TMAN									
ASSESSME	NT:														
	CRI		CAL			RE	DUNE	ANCY	SCRE	EENS			CIL		
	F		JIGH /FU			A		В		•	С				
NASA IOA]	3	/3 /3]		[]	[]	[]		[]	*
COMPARE	[/	3		[3	ĺ]	[]		[]	
RECOMMEN	IDA'	rIC	ONS:		(If	difi	fere	nt fr	om N	ASA)					
	[/]		[]	[]	ſ]	(A	[DD/E) EL	ETE)
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DEMARKS	•			•											

ASSESSM ASSESSM NASA FM	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12142X NASA FMEA #: 05-6KA-2261E-1								K LE-1					IASA BASE		3				
SUBSYST MDAC ID ITEM:	EM:			AI 12	RCS 2142				WAL C				I	NHIB	ГT					
LEAD AND	ALY	ST	:	D.	НА	RT	MA	N												
ASSESSMI	ENT	:																		
	CR		ICAL LIGH		?		R	ED	UNDAN	CY	S	CREENS	S				IL PEN			
		HD	W/FU	NC			A			В			С			1.	LEP	1		
NASA IOA	[3	/1R /3]		[P]	[[F]	[P]		[x]	*	
COMPARE	[/N]		[N]	[N]	[N]		[N]		
RECOMMEN	DA:	ric	ONS:		(If	đi	Ĺfí	fe:	rent :	fro	m	NASA)								
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REMARKS:												IN	ΆΓ	EQUA'	ΓE	Ī]		
NASA FME EFFECT.	A C	ON	SIDE	ERS	MUI	TI	PI	Æ	FAILU	IRE	s.	THI	S	FAIL	JRE	AL	ON	E	HAS	NO
AT MEETI DISCUSSE WAS RAIS THEREFOR	ED.	DÜ	E TC	D]	FFE	RE	U TN	PC	NTERP	T RE	mu	P TOO		/20777					S LURI	ES):

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12143X NASA FMEA #: 05-6KA-2261E-2												SA DATA: ASELINE NEW		x]	
SUBSYSTEM MDAC ID: ITEM:	[:		12	143	MA	NUAL	OF	EN	/cl	OSE	IN	HIBIT				
LEAD ANAI	YSI	r:	•	HART	MAN	ī										
ASSESSMEN	T:															
C		rical			RI	DUND	ANC	CY	SCR	EENS	}		CI	IL EM	[
		FLIGH DW/FU			A			В			С					
NASA IOA	[:	3 /1R 3 /1R]] [P P]	[F F]	[[P P]	[X] *]	
COMPARE	[/]	[•]	[]	[]	[]	
RECOMMEN	DAT:	ions:		(If d	lif:	ferer	it :	fr	om N	ASA))					
	[3 /1F	2]	1	[P]	[F]	[P] (A		X /DI] ELET	E)
* CIL RE	TEN	TION	RAI	MOOL	Œ:	(If	ap	pl.	icab			DEQUATE DEQUATE	[]	
REMARKS: NASA FME INABILIT	A C Y T	ONSII	DERS DSE	MUL'	TIP VAL	LE FA	AIL O I	UR SO	ES. LATE	TH:	IS TH	FAILURE RUSTER L	C. EA	AUS K.	SES	THE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	NT ID:	TE: 1/2 : ARC: 05-	S-1214		ASA DATA BASELINI NEW					
SUBSYSTEMDAC ID:	M:	ARC: 121 DIO	44	ANUAL C	LOSE/0	OPEN I	NHIBIT			
LEAD ANA	LYST:	D. 1	HARTMAI	1						
ASSESSMEN	NT:									
C		CALITY GHT	RI	EDUNDAN	CY SCI	REENS		CIL		
		FUNC	A		В	С		ITEM		
NASA IOA	[3 /	'1R] '3]	[P] [F]	[P]	[X]	*	
COMPARE	[/	' N]	[N] [иј	[N]	[N]		
RECOMMEND	ATION	s: (I	f diff	erent 1	from N	IASA)				
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* CIL RET	ENTIO	N RATIO	NALE:	(If app	olicab					
REMARKS:							EQUATE EQUATE	[]		
NASA FMEA EFFECT.	CONS	IDERS M	ULTIPL	E FAILU	TRES.	THIS	FAILURE	ALONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12145X		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12145 DIODE - MANUAL	CLOSE/OPE	N INHIBIT	
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL	_	ANCY SCREE		CIL ITEM
FLIGH HDW/FU		В	С	
NASA [3 /1R IOA [3 /3	[P]] []	[F] []	[P] []	[X] *
COMPARE [/N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differen	t from NAS	A)	
	1 [1		r 1	[D] DD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable	ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULTIPLE FA	ILURES. I	HIS FAILURE	ALONE HAS NO
AT MEETING WITH DISCUSSED. IT WAS RAISED DUE THEREFORE, THIS	MAR APPEEN HUNN	ERPRETATION	「つつつに 「おくガテー	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12146 L/R OX &	FU CR	OSSFEED V		TTCH 33, 35
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL
HDW/FU	NC ,	A	В	С	ITEM
NASA [3 /1R IOA [3 /1R] []	P] P]	[P] [NA]	[P] [P]	[] *
COMPARE [/] []	[N]	[]	[]
RECOMMENDATIONS:	(If dia	ferent	from NA	SA)	
/] []	[]	[]	[] ADD/DELETE)
* CIL RETENTION F	CATIONALE:	(If a	pplicable	e)	
REMARKS: NO DIFFERENCES.		•		ADEQUATE INADEQUATE	[]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12 05-6KA-	214/2	SA DATA: ASELINE NEW	[x]					
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12147 L/R OX	& F	u cro	SSFE	ED VLV	7 3/	4/5 SWIT	CH 3:	3, 35
LEAD ANALYST:	D. HAR	rman							
ASSESSMENT:									
CRITICAL FLIGH		RE	DUNDA	MCA	SCREEN	1S		CIL ITEM	
HDW/FU		A		В		С			
NASA [3 /1R IOA [2 /2	.]	[P]	[F]	[P]	[X]	1 *
COMPARE [N /N	3	[1	1	[N]	[N	1	(]
RECOMMENDATIONS:	(If	diff	feren	t fr	om NAS	A)			
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* CIL RETENTION	RATION	ALE:	(If	appl		7.51	DEQUATE	[]
REMARKS: NASA FMEA CONTAINE VALVE AND CONTAINE VALVE AND CONTAINE CROSSFEED MAY CONTAINE ABORT.	AUSE IN	ABIL	TAX I	OF	,-UPEN ITCCTON	1.	TNABILIT	Y TO	

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12148X 05-6KA-2039-2		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID:	ARCS 12148 L/R OX & FU CRO		3/4/5 SWIT	PCH 33, 35
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
FLIGHT		NCY SCREENS	;	CIL ITEM
HDW/FUN	C A	В	C	
NASA [3 /1R IOA [2 /2] [P]] []	[F] [P]	[X] * [X]
COMPARE [N /N] [и] [[N]	n j	[]
RECOMMENDATIONS:	(If different	from NASA)		
[2 /2] [] [] [[X] D/DELETE)
* CIL RETENTION R	ATIONALE: (If ap	plicable)		
REMARKS:			ADEQUATE ADEQUATE	[] []
NASA FMEA CONTAINS THE VALVE AND CAUS CROSSFEED CAPABILI CROSSFEED MAY CAUS 1/1 ABORT.	SE INABILITY TO	RE-OPEN IT	. THIS PRI	EVENTS

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	29/8 CS-1 -6KA	21								1			DAT LIN NI	Œ								
SUBSYSTE MDAC ID: ITEM:				AR 12 L/	CS 149 R OX	: &	· F	TU C	ROS	SS	FE	ED	ΔΓ/	7	3/	4/5	s si	VII	СН	33	3,	35
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ASSESSME	ENT	3																				
	CRI		CAL.		•		RE	DUN	IADI	NC	Y	sc	REE	NS					CI			
	1		LIGH' V/FU				A				В				С							
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RECOMME	NDA'	TI	ons:		(If	đ	if	fer	ent	. :	fro	om	NAS	A)								
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* CIL R		NT	ION	RA!	rion	AL	E:	(I	fa	p)	pl.	ica	able				TAU TAU		[]	
TATIONAL	-																					

ASSESSMENT DA ASSESSMENT II NASA FMEA #:	ARCS-	12150	X 9-1		NASA I BASEI	DATA: LINE [NEW []]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12150 L/R 0		u cros	SFEED	VLV 3/4/5	SWITCH	33, 35
LEAD ANALYST:	D. HA	RTMAN					
ASSESSMENT:							
	CALITY IGHT	RE	DUNDAN	CY SCR	EENS	CII	_
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* CIL RETENTION	ON RATION	ALE: (If app	licabl	ADEQUA']
REMARKS: NO DIFFERENCES	5 .				INADEQUA!	re (]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12151X 05-6KA-2261-1	NASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12151 DIODE - LIMIT SWITCH (O	PEN CIRCUIT)
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
CRITICAL FLIGH		ENS CIL ITEM
HDW/FU		С
NASA [2 /1R IOA [3 /3	[P] [F]] [] []	[P]
COMPARE [N /N] [N] [N]	[N]
RECOMMENDATIONS:	(If different from NA	ASA)
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* CIL RETENTION	le) ADEQUATE [] INADEQUATE []	
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULTIPLE FAILURES.	THIS FAILURE ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT	ID:	E: 1/2 ARC 05-	S-121	52X 261 -	2			NASA BAS	ELIN) x]	
SUBSYST MDAC ID ITEM:			ARC 121 DIO		LIMI	T SWI	тсн	(OPEN	CIRC	CUIT)			
LEAD AN	ALY	ST:	D.	HARTM	AN								
ASSESSM	ENT	:											
	CR	ITICA FLIG	LITY	F	REDUI	NDANC	y sci	REENS			CI		
	I		UNC	A	١		В		С		IT	EM	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	10CC-12153X	F	ASA DATA: BASELINE NEW										
0000101211	ARCS 12153 DIODE - LIMIT S	SWITCH (CLOSEI) CIRCUIT)									
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:													
	ITY REDUNDA	ANCY SCREENS		CIL ITEM									
FLIGH HDW/FU	NC A	ВС											
NASA [2 /1R IOA [3 /3	[P]] []]	[X] * []										
COMPARE [N /N]	[N]										
RECOMMENDATIONS:	(If differen	t from NASA)											
[3 /3] []	[] [[D] DD/DELETE)									
* CIL RETENTION	RATIONALE: (If		DEQUATE	[]									
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULTIPLE FA	LILURES. THIS	FAILURE	ALONE HAS NO									
DISCUSSED. IT	AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.												

ASSESSM ASSESSM NASA FM	ENT	ľI	D:	AR	29/88 CS-121 -6KA-2	54X 261-	·2			NASA BASI	ELIN		, X]	
SUBSYST MDAC ID ITEM: LEAD AN	:			DI	154 DDE - :		T SWI	тсн	(CLOS	ED C			•	
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	flight HDW/FUNC			7	\	:	В		С		IT:	EM		
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* CIL RE	TEN	TI	ОИ	RATI	ONALE:	(If	appl	icab		DEQU	יים אי	r	1	·
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ASSESSMENT DATE: 1/29/ASSESSMENT ID: ARCS-NASA FMEA #: 05-6K															DATA LINE NEW		_	
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LEAD AN	ALYS	ST:		D.	HAR	TN	IAN	ī										
ASSESSM	ENT	:																
	CR		CALI				RE	EDUND	AN	CY	SCF	REEN	S			CIL ITE		
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RECOMME	NDA	TI	ons:		(If	d :	if	ferer	nt	fr	om 1	NASA	.)					
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REMARKS) é																	

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SUBSYSTE MDAC ID:			ARCS 12150 DIOD		GPC C	CLOSE					
LEAD ANA	LYS	T:	D. H	ARTM	AN						
ASSESSME	ENT:										
	CRI	TICAL		I	REDUN	DANCY	SCF	REENS	3	CI	
	H	IDW/FUI	NC	1	1	В			С	111	EM
NASA IOA	[3 /3 3 /3]	[[]	[]]]	[] *
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ASSESSMENT DATE: ASSESSMENT ID: VASA FMEA #:	ARCS-12	1577	(LB-1			1	VASA DATA BASELINE NEW		
MDAC ID:	ARCS 12157 DIODE -	· GP	C OPEI	1					
LEAD ANALYST:	D. HART	MAN							•
ASSESSMENT:									
CRITICAL		RE	DUNDA	NCY	SCREE	NS		CIL	M
FLIGH HDW/FU	INC	A		В			С		
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COMPARE [/N	1	[]	[1	[]	ĺ]
RECOMMENDATIONS	: (If o	diff	erent	fr	om NAS	A)			
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* CIL RETENTION	RATIONA	LE:	(If a	ppl	icable	e) Il	ADEQUATE NADEQUATE	[]
REMARKS: IOA AGREES WITH	NASA FM	EA.							

ASSESSM ASSESSM NASA FM	ENT	. 1	D:	ARC	9/88 S-121 6KA-2		-2				DAT <i>:</i> ELINE NEW			
SUBSYST MDAC ID ITEM:				ARC 121 DIO	-	GPC (OPEN							
LEAD AND	ALY	ST	':	D.	HARTM	AN								
ASSESSMI	ENT	:												
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COMPARE	[/)	[]	[]	[]		[]	
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REMARKS:										DEQU DEQU		[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/8 ARCS-1 05-6KA	2159	х 1С-1				SA DATA: ASELINE NEW	; [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12159 DIODE	- MA	NUAL	OPEN	ī				
LEAD ANALYST:	D. HAF	RTMAN	Ī						
ASSESSMENT:									
CRITICAL		RE	EDUND	ANCY	SCREE	NS		CIL	vī.
FLIGH HDW/FU		A		В		С			
NASA [3 /11 IOA [3 /21	R]	[P]	[P [P]	[P [P]	[[] *
COMPARE [/N	1	[1	[]	[]	[]
RECOMMENDATIONS	: (If	dif	feren	t fr	om NAS	A)			
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* CIL RETENTION	RATION	ALE:	(If	appl	icable		DEQUATE DEQUATE]
REMARKS: IOA AGREES WITH	NASA F	MEA.							

ASSESSM NASA FM	ENT	ID:	ARC	9/88 S-121 6KA-22					NASA BAS	ELIN:] X]	
SUBSYST MDAC ID ITEM:			ARC 121 DIO		1ANU2	AL OP	EN						
LEAD AN	ALYS	T:	D. 1	HARTMA	AN								
ASSESSM	ENT:												
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		DW/Ft		A		:	В	•	С		IT.	EM	
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COMPARE	[/]	[]	C]	[]		[]	
RECOMMEN	IDAT:	ions:	()	f dif	fere	nt fi	om N	ASA)					
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REMARKS: NO DIFFE	RENC	CES.							_ ~ ~		L	ı	

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SUBSYSTEM MDAC ID:	M:			AR(12: DI(L61	_	MA	NUA]	L C	:L	os	E									
LEAD ANA	LYS	T:		D.	HAR	TM.	LAN	Ī													
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COMPARE	[/]		[]		[N]	[]			[]	
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REMARKS	•																				

ASSESSM ASSESSM NASA FM	ENT	ID:	ARC	9/88 S-1216 6KA-22	ATA: INE [NEW [x]					
SUBSYST			ARC 121 DIC	.62	IANU	AL CLO	SE				
LEAD AN	ALY	ST:	D.	HARTMA	N						
ASSESSMI	ENT	:									
	CR	ITICAI FLIGI		R	EDU	NDANCY	SCI	REENS		CI	L
	F	HDW/FU	JNC	A		В		C	2	11	LM
NASA IOA]	3 /3 3 /3]	[]	[]	[]	[] *]
COMPARE	[/]	[]	[]	[]	[]
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REMARKS: NO DIFFE	REN	CES.						INA	DEQUAT:	E (]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12163X 05-6KA-2261E-1		NASA DATA: BASELINE NEW	[x]									
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12163 DIODE - MANUAL	L OPEN/CLOSE	INHIBIT										
LEAD ANALYST:	D. HARTMAN												
ASSESSMENT:				477									
CRITICAL	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT HOW FINC A B C												
FLIGH HDW/FU													
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* CIL RETENTION	RATIONALE: (I:		ADEQUATE NADEQUATE	[]									
REMARKS: NASA FMEA CONSI EFFECT.	DERS MULTIPLE	FAILURES. TH	IS FAILURE	E ALONE HAS NO									
DISCUSSED. IT	REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO EFFECT. AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.												

ASSESSMI	NASA FMEA #: 05-6KA-2261E-2 SUBSYSTEM: ARCS													A D SEL		Ξ [x]			
SUBSYSTE MDAC ID:				1	ARCS 12164 DIODE		М	IAN	UAL	0	PE	N/O	CLOSE	: 1	NH:	IBI'	T	-		•	
LEAD ANA	LY	ST	:	D	. HA	RT	MA	N													
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* CIL RET	EN	TI	ON F	ras	CIONA	LE	:	(I	faj	qq	li	cal	ole)								·
REMARKS:	_													AD	EQU	JAT: JAT:	E	[:]]	
NASA FMEA INABILITY	T	0 N	SIDE	RS E	THE	ΓI VA	PL LV	E :	FAII FO]	LU:	RE:	S. ATE	THI T A E	S HR	FA] US]	LUI	RE LE	CAI AK	JSF •	ES	THE

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT ASSESSMENT NASA FMEA #	SA DATA: ASELINE NEW	[]									
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12165 DIODE					N IN	HIBIT				
LEAD ANALYS	T:	D. HAI	RTMA	M								
ASSESSMENT:												
	TICAL	ITY T	F	REDUNI	DANCY	SCREE			CIL			
н	IDW/FU	NC	1	A	В		С					
NASA [IOA [_	[X		!	
COMPARE [/N	1	[]	1]	[N	1	[N]	[N]		
RECOMMENDAT	rions:	(If	di:	ffere	nt fro	om NAS	SA)					
_ [3 /3	1	[]	[1	[DD/DI			
* CIL RETER	NTION	RATION	ALE	: (If	appl	icable	A	DEQUATE DEQUATE]		
REMARKS: NASA FMEA (EFFECT.	CONSI	DERS MU	LTI	PLE F	'AILUR	ES. S	THIS	FAILURE	ALO	NE I	HAS N	Oi
AT MEETING DISCUSSED. WAS RAISED THEREFORE,	TT V	WAS AGE TO DIFI	EED	NT IN	I THAT ITERPR	THE ETATI					S LURES	;)

ASSESSM	ENT DATE ENT ID: EA #:	ARCS-1	NASA DA BASELI N	TA: NE [] EW [X]		
SUBSYST MDAC ID ITEM:		ARCS 12166 DIODE -	- MANUA	AL CLOSE/O	PEN INHIBIT	
LEAD AN	ALYST:	D. HAR	IMAN			
ASSESSMI	ENT:					
	CRITICAL FLIGH		REDUN	DANCY SCR	EENS	CIL
	HDW/F		A	В	С	ITEM
NASA IOA	[3 /1F [3 /3	?] [P]	[F] []	[P] ·	[X] *
COMPARE	[/N] [N J	[N]	[N]	[N]
RECOMMEN	NDATIONS:	(If d	liffere	nt from NA	ASA)	
-	[3 /3] []	[]	[] ([D] ADD/DELETE)
* CIL RE	TENTION	RATIONAL	E: (If	applicab]		
REMARKS:					ADEQUATE INADEQUATE	i i
NASA FME EFFECT.	A CONSID	ERS MULT	IPLE FA	AILURES.	THIS FAILUR	E ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12167X NASA FMEA #: 05-6KA-2040-1 ARCS-12167X BASELINE [NEW [X]				
SUBSYSTEM MDAC ID:	M:		ARC 121 MAS	67	RC	s cr	ossi	FEF	D S	WIT	СН	36					
LEAD ANA	LYST	:	D.	HAR	'MA	N											
ASSESSME	NT:																
,	CRIT				R	EDUN	DANG	CY	SCF	REENS	3				IL FEI	M	
		LIGH W/FU			A	•		В			С						
NASA IOA	[3 [3	/3 /2R]		((P]	[[P]	[P]		[]	*
COMPARE	[/N]		[N	[]	(N]	[N]		[3	
RECOMMEN	DATI	ons:		(If	dif	fere	ent	fr	om 1	NASA)						
	ſ	/]		[]	C]	[]	(/D		ETE)
* CIL RE	TENT	ION	RAT:	IONA	LE:	(I1	f ap	pl	ica				JATE JATE]	
REMARKS:	<u>.</u>																

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		8X 40-2		NASA DA BASELI N		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12168 MASTER RCS	S CROSSFE	ED SWIT	CH 36		
LEAD ANALYST:	D. HARTMAI	N				
ASSESSMENT:						
FLIGHT		EDUNDANCY	SCREENS	5	CIL	
HDW/FUN	IC A	В		С		
NASA [3 /3 IOA [3 /2R] [] [P] [] [P] [P]	[] *
COMPARE [/N] [N] ["и] [N]	C]
RECOMMENDATIONS:	(If diff	ferent fro	om NASA)			
- [/]. [] [] [[(ADD/D)] ELETE)
* CIL RETENTION R	ATIONALE:	(If appli	·	ADEQUATI ADEQUATI]
NEPDETFERENCE\$26/	88	C-2722				

ASSESSMENT DATE:	1/29/88		NASA DA	
ASSESSMENT ID: NASA FMEA #:	ARCS-12169 05-6KA-204		BASELI 1	NEM [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12169 MASTER RCS	CROSSFEEL	SWITCH 36	
LEAD ANALYST:	D. HARTMAN	ī		
ASSESSMENT:				
CRITICAL		EDUNDANCY S	CREENS	CIL ITEM
FLIGH HDW/FU		В	С	4.2
NASA [3 /3 IOA [3 /2F] [P] [] [P] []] [P]	[] *
COMPARE [/N] [N] [N] [N]	[]
RECOMMENDATIONS	(If dif	ferent from	m NASA)	
[/] [] [] []	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE:	(If appli	cable) ADEQUA INADEQUA	
REMARKS: NO DIFFERENCES.				

ASSESSM ASSESSM NASA FM	ENT	'I	D:	A	/29/8 RCS-1 5-6KA	.21										ASA D BASEL	INE	[) x]	
SUBSYST MDAC ID ITEM:				12	RCS 2170 ASTER	F	łC.	s	CROS	s:	FE:	ED	SWI!	rc	:H	36			_	
LEAD AN	ALY	ST	:	D.	. HAR	TM	IA.	N												
ASSESSMI	ENT	:																		
	CR		ICAI LIGH		Z		R	ED	UNDA	NO	CY	S	CREE	15				CI IT		
]	HD	W/FU	NC			A				В				С				DM	
NASA IOA]	3	/3 /2R]		[P]] [P]	[P]		[]	*
COMPARE	[/N]	:	[N]		[N]	[N]		[]	
RECOMMEN	IDA'	ric	ons:		(If o	li.	ff	eı	cent	f	rc	m	NASA	.)						
_	(/]]	1	[]	[]	(AI	[DD/I] DELE	ETE
* CIL RE	TEN	T]	ON	RAT	IONAI	Æ	:	(1	far	gg	li	ca	ble)							•
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REMARKS: NO DIFFE	REN	ICE	s.										-	4		~Xout		L	J	

ASSESSMEN	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12171X NASA FMEA #: 05-6KA-2040 SUBSYSTEM: ARCS 12171											SA D. ASEL]
SUBSYSTEM MDAC ID:	:		121		RC	s CF	ROSS	FEI	ED S	WIT	СН	36			
LEAD ANAI	LYST:		D.	HAR	TMA:	N									
ASSESSMEN	NT:														
(CRIT				R	EDUI	NDAI	ICY	SCF	REEN	S			CIL	M
		LIGH N/FU			A			В			С				
NASA IOA	[3	/3 /2F]		[[F]		[[P]]	P]	•	[] *]
COMPARE	[/N)		[]	[]		[N]	[N]		[]
RECOMMEN	DATI	ons:	}	(If	dii	fer	ent	fr	om 1	NASA	.)				
	[/	3		[]		[]	[]	(A	[.DD/I	ELETE)
* CIL RE	TENT	ON	RAI	NOI	ALE	: (1	[f a	pp]	lica		- 4	DEQU DEQU		[]
REMARKS:	: ERENC	ES.													·

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	ARCS-1	2172Y		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12172 MANIFO	LD 1, L/	'R OX & FI	U ISOL VLV S	WITCHES 22, 27
LEAD ANALYST:					·
ASSESSMENT:					
FLIG		REDUND	ANCY SCRE	EENS	CIL
HDW/F	UNC	A	В	С	ITEM
NASA [3 /1 IOA [3 /1	R] [R] [[P] [P]	[P] [P]	[P]	[] *
COMPARE [/] [[]	[]	[]	[]
RECOMMENDATIONS	(If d	differen	t from NA	SA)	
- [/] []	[]	•	[] DD/DELETE)
* CIL RETENTION	RATIONAL	Æ: (If a	applicable	e)	·
REMARKS: NO DIFFERENCES.				ADEQUATE INADEQUATE	[]

1/29/88 ARCS-12173X 05-6KA-2030-2		
ARCS 12173 MANIFOLD 1, L	SWITCHES 22, 27	
D. HARTMAN		
	DANCY SCREENS	CIL ITEM
	ВС	
] [P]] [P]	[P] [P] [P] [P]	[] *
] []	[] []	[]
(If differe	ent from NASA)	
] []	[] []	[] (ADD/DELETE)
RATIONALE: (If	f applicable) ADEQUA INADEQUA	
	ARCS-12173X 05-6KA-2030-2 ARCS 12173 MANIFOLD 1, L, D. HARTMAN ITY REDUN T NC A [P] [P]] [P]] (If difference)	ARCS-12173X 05-6KA-2030-2 ARCS 12173 MANIFOLD 1, L/R OX & FU ISOL VLV D. HARTMAN ITY REDUNDANCY SCREENS T NC A B C [P] [P] [P] [P] [P] [P] [P] (If different from NASA) [If different from NASA) ADEQUAY

ASSESSME ASSESSME NASA FME	INT	Ι	D:		1, A	1/29/88 ARCS-12174X 05-6KA-2030-2						NASA DATA: BASELINE [] NEW [X]										
SUBSYSTE MDAC ID:					A)	RCS 2174								FU	I	SO	L 7	VLV	SW:	ITC	HES	22,
LEAD ANA	LY	ST	:		D.	. на	RT	MA	N													
ASSESSME	NT	:																				
	CR:	IT: F:	ICA LIG	L	CTY C	Ž.		R	EDI	ג םאנ	ANO	CY	sc	REI	ENS	5				CI		
	1	HDV	W/F	Uľ	1C			A				В				С				IT:	cm	
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COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	DAI	ľIC	ons	:		(If	d:	Ĺfí	er	ent	: f	rc	m	NAS	A)							
-	[/]		[]		<u>.</u>]		[]		(AD	[D/I] DELE	ETE)
* CIL RET	ren	TI	ON	R	ΆT	IONA	LE	:	(I	fa	pp	li	ca	ble								
REMARKS: NO DIFFER	REN	íCE	s.															UATI UATI		[]	

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12175X 05-6KA-2030-2	BASELIN	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12175 MANIFOLD 1, L/								
LEAD ANALYST:	D. HARTMAN	. HARTMAN							
ASSESSMENT:									
CRITICAL		DANCY SCREENS	CIL ITEM						
FLIGH HDW/FU	_	В С							
NASA [3 /1F IOA [3 /1F	[P] [P]	[P] [P] [P] [P]	[] *						
COMPARE [/] []	[] []	[]						
RECOMMENDATIONS	: (If differe	nt from NASA)							
ι /] []	[] []	[] (ADD/DELETE)						
* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE: (If	applicable) ADEQUAT INADEQUAT							

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	: ARCS-	-12176	X 0-1			ATA: INE [] NEW [X]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12176 MANIF		, L/R OX	. & FU]		SWITCHES	
LEAD ANALYST:	D. HA	RTMAN					
ASSESSMENT:							
FL	CALITY IGHT 'FUNC	REI A	OUNDANCY		rs C	CIL ITEM	
NASA [3 /	'1R] '1R]	[P]	[P] [[]	*
COMPARE [/]	[]	[] []	[]	
RECOMMENDATION	s: (If	diffe	rent fro	om NASA)		
- (/]	[]	ί] [-	[] (ADD/DELE	ETE)
* CIL RETENTIO	N RATIONA	ALE: (If appli	.cable)			•
REMARKS: NO DIFFERENCES					ADEQUATI VADEQUATI	E [] E []	

ASSESSME ASSESSME NASA FME	NT II		ARC									SA DATA: ASELINE [] NEW [X]					
SUBSYSTE MDAC ID: ITEM:			ARC 121 MAN		.D 2	2, L,	r ox	& FU	J IS	OI	J VLV S	SWI	тсні	ES	23,	28	
LEAD ANA	LYST	:	D.	HART	MAI	1											
ASSESSME	ENT:																
	CRIT				R	EDUNI	DANCY	SCRI	EENS	3			CIL	M			
		LIGH W/FU			A		В			С							
NASA IOA	[3	/1R /1R]	[P]	[P [P]	[P P]		[]	*		
COMPARE	[/]	I	[]	[]	[]		[]			
RECOMME	NDATI	ONS:		(If o	lif	fere	nt fr	om N	ASA)							
 .	[/]		[]	[]	[]	(Al	[DD/D] EL	ETE)		
* CIL R	ETENI	rion	RAT	IONA	LE:	(If	appl	icab			DEQUAT DEQUAT		[]			
REMARKS	:																

ASSESSME ASSESSME NASA FME	TM	Ι	D:		AF	L/29/88 ARCS-12178X D5-6KA-2030-2							NASA DATA: BASELINE [] NEW [X]									
SUBSYSTE MDAC ID:					12	CS 178 NIF	OL	D	2,	L/]	R (ox	&	FU	I	SOI	, VI	.V .	SWI	тсн	IES	23,
LEAD ANA	LY	ST	:		D.	HA	RT	MA.	N													
ASSESSME	NT	:																				
	CR:		ICA LIG					R	EDU	INDA	ANG	CY	sc	CREE	ENS	5				CIL ITE		
	I	IDI	W/F	UN	IC			A				В				С			•	LIE	M	
NASA IOA	[3	/1 /1	R R]]	P P]		[P P]]	P P]			[]	*
COMPARE	[/]		(]		ſ]		[)		!	[]	
RECOMMENI	ľAC	CIC	ons	:		(If	di	Lf1	er	ent	: f	rc	m	NAS	A)							
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* CIL RET	ren	TI	ON	R	AT)	IONA	LE	::	(I	f a	pp	li	ca	ble)							
REMARKS:	. —																EQU <i>I</i> EQU <i>I</i>]	
NO DIFFER	(EN	CE	S.																			

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ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	ARCS-	88 12179X A-2030-2	NASA DATA BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12179 MANIF	OLD 2, L/I	ITCHES 23, 28				
LEAD ANALYST:	D. HA	RTMAN					
ASSESSMENT:							
	CALITY	REDUND	CIL ITEM				
	IGHT /FUNC	A	В	С			
NASA [3 IOA [3	/1R] /1R]	[P] [P]	[P] [P]	[P] [P]	[] *		
COMPARE [/ 1	[]	[]	[]	[]		
RECOMMENDATI	ons: (I	f differen	t from NA	SA)			
[/ 1	[]	[]	[] ([] ADD/DELETE)		
* CIL RETENT	ION RATIO	NALE: (If	applicabl	Le) ADEQUATE INADEQUATE	_		
REMARKS: NO DIFFERENC	ES.						

ASSESSM ASSESSM NASA FM	ENT :	ID:	1/29, ARCS- 05-61	-1218	30X 330	-2		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTI MDAC ID: ITEM:			ARCS 1218(MANII		2,	L/R	ох	& F	U IS	OL VI	LV SW	ITC	HES 23	, 28	
LEAD ANA	ALYST	r:													
ASSESSME	ENT:		,												
	F	LIGH	_	R	EDU	JNDAN	CY	SCR	EENS			CII			
	HE	W/FU	NC	A			В			С		ITE	ZM		
NASA IOA	[3	/1R /1R]	[P]	[P P]	[P] P]		[] *		
COMPARE	[/]	[]	[]	[]		[]		
RECOMMEN	DATI	ONS:	(If	dif	fer	ent f	froi	n NA	ASA)						
	[/]	[]	ſ		l	[]	(AE	[D/D] ELETE)		
* CIL RE	TENT:	ION F	RATION	ALE:	(I	f app	lic	abl	.e)						
REMARKS:	RENCI	ES.								DEQU?		[]		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12181 05-6KA-203		NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12181 MANIFOLD 2								
LEAD ANALYST:	D. HARTMAN	Ī							
ASSESSMENT:									
CRITICAL		EDUNDANCY SCRE	ENS	CIL ITEM					
FLIGH HDW/FU		В	С						
NASA [3 /1F IOA [3 /1F	[P] [P]] [P]	[P] [P]	[] *					
COMPARE [/] [] []	[]	[]					
RECOMMENDATIONS	(If dif	ferent from N	ASA)						
[/	1 [] []	[.] (A	[] ADD/DELETE)					
* CIL RETENTION	RATIONALE:	(If applicab	le) ADEQUATE INADEQUATE	[]					
REMARKS: NO DIFFERENCES.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12	182Y		NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12182 MANIFOL	D 3, L/	R OX & FU	ISOL VLV SW	ITCHES 24, 29					
LEAD ANALYST:					·					
ASSESSMENT:										
CRITICALI FLIGHT	ITY F	REDUNDA	ANCY SCRE	ENS	CIL					
HDW/FUN	4C	A	В	C	ITEM					
NASA [3 /1R IOA [3 /1R] [P] P]	[P] [P]	[P] [P]	[] *					
COMPARE [/] []	[]	[]	[]					
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)						
- (/) (]	[,]		[] DD/DELETE)					
* CIL RETENTION R	ATIONALE	: (If a	pplicable	2)						
REMARKS: NO DIFFERENCES.				ADEQUATE INADEQUATE	[]					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12183X 05-6KA-2030-2	NASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12183 MANIFOLD 3, L/R OX & FU IS	OL VLV SWITCHES 24, 29
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
CRITICAL		CIL ITEM
FLIGH HDW/FU	_	С
NASA [3 /1R IOA [3 /1R	[P] [P] [[P] [P] [P] [] * P] []
COMPARE [/] [] [] [] []
RECOMMENDATIONS:	(If different from NASA)	
[/] [] [] [] [] (ADD/DELETE)
* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12184X 05-6KA-2030-2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12184 MANIFOLD 3, L/R 02	X & FU ISOL VLV SW	ITCHES 24, 29
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT	TY REDUNDANC	Y SCREENS	CIL
HDW/FUN	C A F	з с	ITEM
NASA [3 /1R IOA [3 /1R] [P] [I	?] [P] ?] [P]	[] *
COMPARE [/] [] [] []	[]
RECOMMENDATIONS:	(If different fr	om NASA)	
- (/) [] [[] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If appl	icable)	
REMARKS: NO DIFFERENCES.		ADEQUATE INADEQUATE	[]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12185 05-6KA-203	1/29/88 NASA DATA ARCS-12185X BASELINE 05-6KA-2030-2 NEW ARCS 12185 MANIFOLD 3, L/R OX & FU ISOL VLV SW										
SUBSYSTEM: MDAC ID: ITEM:		3, L/F	e ox	& FU	ISOL	VLV SW	TCHE	S 24,	29			
LEAD ANALYST:	D. HARTMAI	N										
ASSESSMENT:							OTT					
CRITICAL		EDUNDA	ANCY	SCREE	ens		CIL ITE	I				
FLIGH HDW/FU			В		С							
NASA [3 /11 IOA [3 /11	R] [P]	[P]	[P]	[] *				
COMPARE [/] []	[]	[]	[]				
RECOMMENDATIONS	: (If dif	feren	t fr	om NA	SA)							
ţ /] []	[]	[] (2	[\DD/D	ELETE)				
* CIL RETENTION REMARKS:	RATIONALE	: (If	appl	icabl.		DEQUATE DEQUATE	[]				
NO DIFFERENCES.												

ASSESSMEN ASSESSMEN NASA FMEA	IT I	D:	ARCS-	-121	86X 030	-1					ASA D BASEI	INE	[] [X]		
SUBSYSTEM MDAC ID: ITEM:			ARCS 12186 MANIF		3,	L/R	ox	&	FU I	so	L VLV	SWI'	rches	24.	29
LEAD ANAL	YST	:													
ASSESSMEN'	T:														
cı	F	LIGH		R	EDU	JNDAN	CY	SCI	REEN	S			IL TEM		
	HD	/FU	NC	A			В			С		_	TEM		
NASA IOA	[3 [3	/1R /1R]	[P]	[P P]	[P P]	[]	*	
		/		[]	[3	[]	[]		
RECOMMENDA	TIC	NS:	(If	dif	fer	ent f	ro	m N	ASA)						
(/		[]	[]	[]	[(ADD)] /DELE	TE)	
* CIL RETE	NTI	ON R	ATIONA	LE:	(I	f app	lio	cab	le)					•	
REMARKS:										ADI ADI	EQUAT EQUAT	E []		

ASSESSME ASSESSME NASA FME	NT	ID	:	AR	29/8: CS-1 -6KA	21								SA DA' ASELII N	NE	[x			
SUBSYSTE MDAC ID: ITEM:				AR 12 MA		LD	4	, L/R	. 0	x	& FU	IS	OL	VLV	SWI	TCHE	s	25,	30
LEAD ANA	LYS	T:		D.	HAR	TM	AN												
ASSESSME	NT:	:																	
	CR		[CAL]				RE	DUNDA	NC	Y	SCREE	ENS	5			CIL ITEN	1		
	1		LIGHT V/FUI				A			В			С						
NASA IOA	[3	/1R /1R]	-	[P P]]	P P]	[P P]		[]	*	
COMPARE	[/]		[1	[]	[]		[]		
RECOMME	NDA	TI	ons:		(If	d :	if:	feren	ቲ :	fro	om NA	SA)						
_	[/]		[]	[]	[]	(A)	[DD/D	ELI	ETE)	
* CIL R		NТ	ION	RA!	CION	AL	E:	(If	ap;	pl.	icabl		A NA	DEQUA'	TE TE	[]		
REMARKS	:																		

NO DIFFERENCES.

ASSESSM ASSESSM NASA FM	ENT	ID:	ARC	29/88 CS-12 -6KA-	188X						SA DA ASELI N	TA: NE [IEW [) x]		
SUBSYST			ARC 121 MAN	.88	D 4,	L/R	ox	& :	FU I:	SOL	ATA	SWITC	HES	25	,
LEAD ANA	ALYS	r:	D.	HARTI	NAN										
ASSESSMI	ENT:														
	1		LITY IT JNC		REDU A	JNDAN	CY B	SCI	REENS	s C		CI IT			
NASA IOA	[3	3 /1F 3 /1F	R]]	P] P]	[P P]	[]	P] P]		[]	*	
COMPARE	[/	3	[]	[3	[]		[]		
RECOMMEN	DATI	ons:	(:	If di	ffer	ent i	fro	om N	(ASA)						
_	[/]	[]	[]	ſ)	([(ADD/I] DELE	TE)	
* CIL RE	TENT	ION	RATIO	ONALE	: (I	f app	li	.cab	le)					·	
REMARKS:											QUATE QUATE]		

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NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	NT II	ATE: D:	AR	29/88 CS-12 -6KA	2189	9X 30-2						SA DA ASELI	INE	[x]		
SUBSYSTE MDAC ID: ITEM:			AR 12 MA		LD ·	4, L	/R 0	x {	⊊ FU	IS	OL	, ATA	SWI	тсні	ES	25,	30
LEAD ANA	LYST	:	D.	HAR	TMA	N											
ASSESSME	NT:																
	CRIT				R	EDUN	IDACY		SCRE	ENS	3			CIL			
	_	LIGH W/FU			A			В			С						
NASA IOA	[3 [3	/1R	:]		[P]	[P P]]	[P P]		[]	*	
COMPARE	[/	1		[]	ĺ]	[]		[]		
RECOMME	NDAT1	ons:		(If	dif	fer	ent f	fro	m NA	ASA)						
	Į	/]		[1	[]	[]	(A	[DD/D	EL.	ETE)	
* CIL R	ETENT	rion	RAT	TION?	ALE:	: (I	f app	pli	.cab			DEQU <i>I</i> DEQU <i>I</i>]		
REMARKS NO DIFF		CES.															

ASSESSME ASSESSME NASA FME	NT ID:	ARCS-1	219	0X 030-2	2					A DA SELI N	NE	[x]]
SUBSYSTEM MDAC ID:	M:	ARCS 12190 MANIFO	LD	4,]	L/R	ох	&]	FU I:	SOL '	VLV	swij	гснез	S 25,
LEAD ANA	LYST:	D. HAR	TMA	N									
ASSESSMEN	NT:												
C	CRITICALI FLIGHT		R	EDUN	IDAN	CY	SCI	REENS	5			CIL	
	HDW/FUN	IC	A			В			С		1	TEM	
NASA IOA	[3 /1R [3 /1R]	[P]]	P P]	[P] P]		[]	*
COMPARE	[/]	[]	(]	[]		[
RECOMMEND	ATIONS:	(If d	lifi	fere	nt	fro	m N	ASA)					
-	[/] [•]	[]	[]	(] /DEL	ETE)
* CIL RET	ENTION R	ATIONAI	E:	(If	apj	pli	cab				_		
REMARKS: NO DIFFER	ENCES.									UATE UATE]	

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ASSESSMEN ASSESSMEN NASA FMEA	T ID	TE:	AR	29/88 CS-12 -6KA	219.							SA DA ASEL] 1	INE	(x]		
SUBSYSTEM MDAC ID:	1:		ARC 12: MA		LD	4, 1	L/R O	X	& FU	IS	OL	VLV	SWI	тсня	ES	25,	30
LEAD ANA	LYST:	:	D.	HAR	TMA	N											
ASSESSME	NT:																
	CRIT				R	EDU	NDANC	Y:	SCRE	ENS	5			CIL	M		
		LIGH' W/FU			A			В			С						
NASA IOA	[3 [3	/1R /1R]		[P]] [P P]	[P P]		[]	*	
COMPARE	[/]		[3	[3	[]		[]		
RECOMMEN	DATI	ons:		(If	dif	fer	ent :	fro	om NA	SA)						
	[/]		[]	[]			1	(A	[DD/D	EL.	ETE)	
* CIL RE		ON	RAT	TION?	ALE:	: (I	f ap	pl:	icab:			DEQU <i>I</i> DEQU <i>I</i>]		
REMARKS:		ES.															

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12192X 05-6KA-2255-1	NASA DA' BASELII Ni	
SUBSYSTEM:	ARCS 12192	WITCH (OPEN CIRCUIT	r)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICALI FLIGHT	r important	NCY SCREENS	CIL ITEM
HDW/FUN	IC A	В С	
NASA [2 /1R IOA [3 /3] [P]] []	[F] [P] [] []	[X] * []
COMPARE [N /N	ן א]	[и] [и]	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[3 /3] []	[] [] ([D] ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If a		
REMARKS:		ADEQUATE INADEQUATE	
NASA FMEA CONTAINS EFFECT.	S MULTIPLE FAILU	JRES. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FMEA	TT]	[D:		ARC	:S-121	.93X	DATA: LINE NEW]					
SUBSYSTEM MDAC ID:				ARC 121 DIC	93	LIMI	T SWIT	сн	(OPEN	CIRC	UIT)			
LEAD ANA	LYS	T:		D.	HARTN	IAN								
ASSESSME	NT:													
						REDU	JNDANC	z sc	REENS			CIL	M	
			IGHT /FUN			A	1	В	C	:				
NASA IOA	[3 ,	/3 /3]] []	[]	[]		[]	*.
COMPARE	[ı	/	}	C]	[]	[1		[]	
RECOMMEN	DAT	OI	ns:		(If d	iffe	rent f	rom	NASA)					
	(3	/2R]	E	P]	[P]	[]	P]	(AI	[DD/D		ETE)
* CIL RE	TEN	ITI	ON	RAT	'IONAL	Æ: (If app	lic	4		UATE UATE	[]	
REMARKS: THIS FAI POSITION TO FALSE OPERATION	LLUF 1. ELY	RE FA		- 1 L	TOWN DE	α	ו רויטו	1155	UP AL	L RE	DONDLY			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

SUBSYSTEM: ARCS MDAC ID: 12194 ITEM: DIODE - LIMIT SWITCH (CLOSE CIRCUIT) LEAD ANALYST: D. HARTMAN	
LEAD ANALYST: D. HARTMAN	
ASSESSMENT:	
CRITICALITY REDUNDANCY SCREENS CIL	
HDW/FUNC A B C	
NASA [2/1R] [P] [F] [Y] * IOA [3/3] [] [] [] []	
COMPARE [N/N] [N] [N] [N]	
RECOMMENDATIONS: (If different from NASA)	
[3/3] [] [] [D] (ADD/DELETE)
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []	
REMARKS: NASA FMEA CONTAINS MULTIPLE FAILURES. THIS FAILURE ALONE HAS EFFECT.	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12 05-6KA	2195	X 5-2				SA DATA: ASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12195 DIODE	- LI	MIT S	WITC	H (CL	OSE	CIRCUIT)	
LEAD ANALYST:	D. HAR	TMAN	ſ						
ASSESSMENT:									
CRITICAL		RE	EDUNDA	MCA	SCREE	NS		CIL	
FLIGH HDW/FU		A		В		С			
NASA [3 /3 IOA [3 /3]	[]	[]	[]]	[] *
COMPARE [/	3	[1	[1	[1	[1
RECOMMENDATIONS	: (If	dif	feren	t fr	om NAS	SA)			
[3 /2]		1	[P	(2	[ADD/I] DELETE)
* CIL RETENTION	RATION	ALE:	(If	appl	icabl		DEQUATE]
REMARKS: THIS FAILURE MA POSITION. REDU TO FALSELY FAIL	Y CAUSE NDANCY ING THE	LOS PROV	S OF VIDED. LVE CI	ACCU LOSEI	RATE OSS OF O, POS	INDI ALI SIBI	CATION C REDUND Y EFFEC	OF TI ANCY TING	HE VALVE MAY LEAD MISSION

OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT ASSESSMENT NASA FMEA	DATE: ID: #:	1/29/88 ARCS-12 05-6KA-	3 2196X -2255A-:	1		A DATA SELINE NEW] 1
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12196 DIODE -					•	,
LEAD ANALYS	ST:	D. HART	MAN					
ASSESSMENT:	}							
CRI	TICALI FLIGHT	TY	REDUNE	ANCY SCRE	ENS		CIL	
н	DW/FUN	C	A	В	С		ITEM	
NASA [] AOI	3 /3 3 /1R] [] [P]	[] [NA]	[] [P]		[]	*
COMPARE [/N]] [N]	[и]	[N]		[]	
RECOMMENDAT	IONS:	(If di	fferen	t from NAS	SA)			
-	/]			[]			[] D/DELE	ETE)
* CIL RETENT	TION RA	TIONALE	: (If a	applicable	<u>.</u>)			
REMARKS:					ADEQI INADEQI	JATE ([]	
LOSE GPC COMMANUAL COMMATHRUSTER LEA	MAND T ND. L K.	O CLOSE OSS OF	THE VA	LVE. RED UNDANCY P	UNDANCY REVENTS	PROVI	DED W	'ITH OF A

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSMEN ASSESSMEN NASA FME	TN	ID		ARC	9/88 5-12197 6KA-225		2		_	ASA DA BASEL]]	
SUBSYSTEM MDAC ID:	M:			ARC 121 DIO		PC C	LOSE							
LEAD ANA	LYS	T:		D.	HARTMA	N								
ASSESSME	NT:	:												
	CRITICALIT FLIGHT					EDUN	DANCY	SCR	EENS			CIL		
	F			UNC	A	,	В		C	2				
NASA IOA	[3	/3 /3]	[]	[]	[]		[]	* .
COMPARE	[/]	C]	[]	[]		[.]	
RECOMMEN	IDA'	ΓI	ONS	: (If dif	fere	ent fr	om N	ASA)					
_	[/	1	Ţ]	[]	[1	(A	[DD/I) DEL	ETE)
* CIL RETENTION RA					ONALE:	; (Ii	f appl	icab		ADEQUA ADEQUA		[]	
REMARKS:		NC	ES.											

ASSESSME ASSESSME NASA FME	NT :	ID:	AR	29/88 CS-12 -6KA-	198X			1	NASA DA Basel] x]
SUBSYSTE MDAC ID: ITEM:				CS 198 DDE -	GPC	OPEN				·	-
LEAD ANA	LYST	r:	D.	HARTI	NAN						
ASSESSME	NT:										
	F	TICAL FLIGH W/FU	T		REDU	JNDAN	CY SCE			CI IT	L EM
Wa ca							_	C			
NASA IOA	[3	/1R /1R]	[P]]	P] NA]	[P]	[[] *]
COMPARE	[/]	[]	Į	N]	[]	[]
RECOMMEN	DATI	ons:	(If di	ffer	ent i	from N	ASA)			
_	[/]	[]	[]	ſ]] DELETE
* CIL RET	CENT	ION E	RATI	ONALE	: (I	f apr	licab	le)			•
								A.	DEQUAT	E []
REMARKS: NO DIFFER	RENC	ES.						INA	DEQUAT	E []

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1219 05-6KA-22	99X 255B-2				SA DATA ASELINI NEV]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12199 DIODE - 0	GPC OPI	en					
LEAD ANALYST:	D. HARTM	AN						
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCREE	NS		CIL ITE	M
FLIGH HDW/FU		A	В		С			
NASA [3 /3 IOA [3 /3] []	[]	[[]	[] *
COMPARE [/	j ()	3	[]	[1	[]
RECOMMENDATIONS	: (If di	ifferer	nt fr	om NAS	SA)			
[/] [1	[]	[.]	[(ADD/[ELETE)
* CIL RETENTION REMARKS: NO DIFFERENCES.		E: (If	appl	icable.		ADEQUAT ADEQUAT]

ASSESSM ASSESSM NASA FM	ַ י	ID:	AR	29/88 CS-121 -6KA-2	L99X 2255E	3-2			NASA BAS	ELIN	A: E [W [у ј х 1		
SUBSYST MDAC ID ITEM:				ARC 122 DIC	_	GPC	OPEN						,	
LEAD AN	ALY	SI	!:	D.	HARTM	AN								
ASSESSMI	ENT	:												
	CR		ICA LIG	LITY HT		REDU	NDANC	Y SCI	REENS			CI	_	
]	HD	W/F1	UNC		A		В	1	С		IT	EM	
NASA IOA]	3	/3 /3]	[[]]]] []		[]	*
COMPARE	[/	·]	[]	[]	[]		[]	
RECOMMEN	DAI	CIC	ons:	(:	If dif	fere	ent f	rom N	ASA)					
RECOMMENDATIONS: (If]		.]	[J	(A	(DD/[] ELET	ΓE)
* CIL RE	ren	TI	ON	RATIO	NALE:	(If	app]	licab		DECIT	A MITES		_	
REMARKS: NO DIFFEI	REN	CE	s.						INA	DEQUA	ATE	[]	

ASSESSMEN ASSESSMEN NASA FMEA	IT	ID	TE:	ARC	CS-1	.22	00 25	X 5C-1						SA DAT ASELIN NE	ΙE	[x]	
SUBSYSTEM MDAC ID:	1:			ARG 12: DIG	200	-	MA	NUAL	OF	EN								
LEAD ANA	LYS	T:		D.	HAI	(TI	IAN	ſ										
ASSESSME	T.	:																
	CRITICA FLIG						RE	DUND	ANC	CY	SCRI	EENS	5			CIL		
							A			В			С					
NASA IOA	[3	/1R /1R]		[P P]	[P NA] A]	[P P]		[]	*
COMPARE	[/]	-	[]	[N]	[1		[]	
RECOMMEN	'DA'	TI	ons:		(If	d	if	fere	nt	fr	M mc	ASA)					
	[/]		[]	[]	[]	(A	[DD/1	DEI	ETE)
* CIL RE	TE	NΤ	ION	RAT	rion	AL	E:	(If	ap	pl	icab		U	DEQUAT DEQUAT		[]	
REMARKS:		NC	ES.															

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	AR	CS-1220	01X 255C	:-2			NASA D BASEL	INE	[] [x]
SUBSYSTE MDAC ID:				CS 201 ODE - M	IANU	AL OP	EN				
LEAD ANA	LYS	ST:	D.	HARTMA	LN						
ASSESSME	NT:	:									
	CRI		ALITY GHT	R	EDU	NDANC	SCI	REENS			IL
	H		FUNC	A	•	I	3	(2	Ι	TEM
NASA IOA] [3 / 3 /	3] 3]	[]	[]	[]]) *
COMPARE	[1]	[]]]	[J	ι]
RECOMMEN	DAT	'ION	s: (If dif	fere	ent fr	om N	ASA)			
_	[/]	[]]]	[]] /DELETE)
* CIL RE	ren'	TIOI	N RATI	ONALE:	(If	appl	icab		DEQUAT	e r	1
REMARKS:	REN	CES							DEQUAT]

ASSESSME	ASSESSMENT DATE: 1/29/ ASSESSMENT ID: ARCS- NASA FMEA #: 05-6H					22	02 25	X 5D-1					_	SA DAT ASELII NI	ΝE	[x]	
SUBSYSTEM MDAC ID:	M:			122	202	_	MA	NUAL	, CI	LOS	SE							
LEAD ANA	LYS	T:		D.	HAR	T'M	IAN	1										
ASSESSME	SSESSMENT:																	
	CRITICALITY FLIGHT						RE	EDUNE	AN	CY	SCR	EENS	3			CIL		
										В			С					
NASA IOA	[3	/1R /1R]	C]	[P N] A]	[P P]		[]	*
COMPARE	[/]		[]	[N]	[]		[]	
RECOMMEN	IDA'	rI(ons:		(If	d	if	fere	nt	fr	om N	IASA)					
	Ĺ		/]		[]	[]	[]	(A	[DD/D	ELI	ETE)
* CIL RETENTION RATION						ΑL	E:	(If	ap	pl	icak		n	DEQUAT DEQUAT		[]	
REMARKS NO DIFF		NC	ES.															

ASSESSM ASSESSM NASA FM	ENT	ID:	ARC	S-122	03X 255D	-2			NASA DA BASELI] X]
SUBSYST MDAC ID ITEM:			ARC 122 DIO	-	MANU	AL CL	OSE				
LEAD AN	ALY	ST:	D.	HARTM	AN						
ASSESSMI	ENT	:									
	CRI	TICA:		I	REDUI	NDANC	SCI	REENS		CI	
	F	IDW/F		7	A	I	3	(2	IT	EM
NASA IOA]	3 /3 3 /3]	[[]	[[]	[]	[] *
COMPARE	[/]	[]	[]	[]	[]
RECOMMEN	DAI	CIONS:	(:	If dif	fere	ent fr	om N	(ASA)			
	[/)	[]	[1	[_	[(ADD/E] DELETE
* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icab		.DEQUATI	2 r	1
REMARKS: NO DIFFE	REN	CES.							DEQUATE		j

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12204X 05-6KA-2255E-1	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12204 DIODE - MANUAL C	OPEN/CLOSE INHIBIT	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL		NCY SCREENS	CIL ITEM
FLIGH HDW/FU		ВС	
NASA [3 /1R IOA [3 /3] [P]] []	[F] [P] [] []	[X] *
COMPARE [/N] [N]	[иј [иј	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[3 /3] []	(A)	[D] DD/DELETE)
* CIL RETENTION	RATIONALE: (If a	pplicable) ADEQUATE INADEQUATE	
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIPLE FAIL	URES. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT ID	: ARCS	/88 -12205X KA-2255E			ATA: INE [] NEW [X]
SUBSYST MDAC ID ITEM:		ARCS 1220 DIOD	5	AL OPEN/C	LOSE INHIBI	r
LEAD AN	ALYST:	D. H.	ARTMAN			
ASSESSM	ENT:					
	FL	CALITY IGHT /FUNC	REDU:	ndancy sce	REENS	CIL ITEM
NASA IOA	[3 ,	/1R] /1R]	[P] [P]	[F] [F]	[P] [P]	[X] * [X]
COMPARE	[,	/]	[]	[]	[]	[]
RECOMMEN	IDATIO	NS: (I	fdiffer	ent from N	(ASA)	
_	[3 /	/1R]	[P]	[F]	[P]	[X] (ADD/DELETE)
* CIL RE	TENTI	ON RATION	VALE: (I	f applicab	ADEQUAT	
DEMA DEC.					INADEQUAT	E []

NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE CAUSES INABILITY TO CLOSE THE VALVE TO ISOLATE A THRUSTER LEAK.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12206X 05-6KA-2255F-1	NA E	ASA DATA: BASELINE [] NEW [X]									
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12206 DIODE - MANUAL	CLOSE/OPEN IN	NHIBIT									
LEAD ANALYST:	D. HARTMAN											
ASSESSMENT:												
CRITICAL	JITY REDUND	ANCY SCREENS	CIL ITEM									
FLIGH HDW/FU	INC A	в с										
NASA [3 /1F IOA [3 /3	R] [P]	[F] [P] [X] *									
COMPARE [/N] [N]	[и] [и] [N]									
RECOMMENDATIONS	: (If differer	nt from NASA)										
[3 /3] []	[] [[D] (ADD/DELETE)									
* CIL RETENTION	RATIONALE: (If	applicable) INP	ADEQUATE [] ADEQUATE []									
REMARKS: NASA FMEA CONSI EFFECT.	REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE ALONE HAS NO											
DISCUSSED. IT WAS RAISED DUE	SUBSYSTEM MANA WAS AGREED UPON TO DIFFERENT IN	TERPRETATIONS	3, NSTS 22206 WAS UE (MULTIPLE FAILUR OF NSTS 22206.	ES)								

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSME ASSESSME NASA FME	DATE:	1/29 ARCS 05-6	/88 -12 KA-	20 22	7X 55F-2						ASA DATA BASELINE NEW	[]				
SUBSYSTE MDAC ID: ITEM:	M:			ARCS 12201 DIODI		M	ANUAL	c	LO	SE,	OPEN	I	NHIBIT					
LEAD ANA	LY	ST	':	D. H2	ART	MA	N											
ASSESSME	NT	:																
(ITY F		R	EDUND	AN	CY	sc	REENS	5		CI		ī					
				NC		A			В			С		**	11.			
NASA IOA	[3	/1R /1R]]	P P]]	F F]	[[P P]	[X X]	*	
COMPARE	[/]	[]	[]	C]	[]		
RECOMMEND	ľAC	PI.	ons:	(If	di	lff	erent	: 1	fro	m	NASA)							
-]								P	•	[: D/I			TE)	
* CIL RET	EN	ΤI	ON F	ATION.	ALE	:	(If a	pp	li	cal								
REMARKS:											IN.	ΑD	EQUATE EQUATE	[:]]		
NASA FMEA INABILITY ALL REDUN EXPELLED	DĀ	NC	Y TO	OPEN	VAL TH	VE E	VALVE VALVE	\sim	M A	MT FO	1.73 C	-	^1/ m				JSE DSS	OF

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	ľΤ	ID	TE:	AR	29/8: CS-1 -6KA	22								SA DATA: ASELINE NEW	[x]		
SUBSYSTEM MDAC ID:	1:			ARC 12: DI	208	_	LI	MIT S	SW1	TC	H	(OPEN	ıc	CIRCUIT)					
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	•											
ASSESSME	NT:	:																	
1	CR:		CAL				RE	DUND	ANO	CY	sc	REENS	5		CI II	EM	Ī		
]		/FU			·	A			В			С						
NASA IOA	[2	/1R /3]		[P]	[F]	[P]	[X]	*	
COMPARE	[N	/N]		[N]	[N]	[N]	[N]		
RECOMMEN	IDA	TI	ons:		(If	d	if	feren	t	fr	om	NASA)						
	[3	/3]		[]	[]	[] (2	DD.	D D	EL	ETE)	
* CIL RI	ETE	NT	ÍON	RA!	rion.	AL	E:	(If	ap	pl	ica		-	DEQUATE]]		
REMARKS: NASA FMI EFFECT.	: EA	CC	NTA	ins	MUL	TI	PL	E FA	LU	JRE	s.	THI	S	FAILURE	AL	ON	E	HAS	ИО

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENI ENI EA	! ! ! ! #:	DATE:	1/29 ARCS 05-6	9/88 5-1220 5KA-22	9X 255-	2			NASA BASI	ELIN	E [x]	
SUBSYST MDAC ID ITEM:	EM:			ARCS 1220	5)9		r swij		(OPEN	CIRC	UIT))		
LEAD AN	ALY	ST	:	D. H	IARTMA	N								
ASSESSMI	ENT	:												
		F.	LIGH	\mathbf{T}		EDUN	IDANCY	sc	REENS			CI	L EM	
	1	HD	W/FU	NC	A		В	}	i	С		11	EFI	
NASA IOA	[[3 3	/3 /3]	[]	[]	[[]		[]	*
COMPARE	[/	3	[)	[]	[]		[]	
RECOMMEN	DA'I	rio	ons:	(I	f dif	fere	nt fr	om 1	NASA)					
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* CIL RE	TEN	T)	ON I	RATIO	NALE:	(If	appl	icak						
REMARKS:									INA	DEQUA	TE	•]	
THIS FAI POSITION TO FALSE OPERATION	LY													

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12210X	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12210 DIODE - LIMIT S	WITCH (CLOSE CIRCUI	r)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	ITY REDUNDA	ANCY SCREENS	CIL ITEM
HDW/FU	NC A	ВС	
NASA [2 /1R IOA [3 /3	[P] []	[F] [P] [] []	[X] *
COMPARE [N /N] [N]	[N] [N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)	
] []	r 1 []	[D] ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATI INADEQUATI	
REMARKS: NASA FMEA CONTA EFFECT.	INS MULTIPLE FAI	LURES. THIS FAILURI	E ALONE HAS NO
DISCUSSED. IT		GER ON 1/20/88, NSTS THAT THE ISSUE (MUL TERPRETATIONS OF NST OPEN.	

ASSESSM ASSESSM NASA FM	ENT EA	* I	D:	ARCS	-1221	L1X 255-	2			NASA DAS BASELII NI		x]	
SUBSYST MDAC ID ITEM:	EM:			ARCS 1221 DIOD	.1	LIMI	T SWI	гсн	(CLOS	E CIRCUI	IT)		
LEAD AND	ALY	ST	:	D. H	ARTMA	N							
ASSESSMI	ENT	:											
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REMARKS:									INA	DEQUATE DEQUATE	į]	
THIS FAIR POSITION TO FALSE OPERATION	LY	T.L	DOME		PRUVI	[] H:]]	In	-c-/	אדג ישו	DESTRUCT			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122 05-6KA-2			NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12212 DIODE -	GPC CLOS	SE			
LEAD ANALYST:	D. HARTI	MAN				
ASSESSMENT:						
CRITICAL		REDUNDA	NCY SCREEN	S	CIL ITEM	
FLIGH HDW/FU		A	В	С		
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* CIL RETENTION	RATIONAL	Æ: (If a		ADEQUATE INADEQUATE]
REMARKS: LOSE GPC COMMAND MANUAL COMMAND. THRUSTER LEAK.	TO CLOS LOSS OF	E THE VA	ALVE. RED OUNDANCY P	UNDANCY PRO REVENTS ISO	VIDED LATIO	WITH ON OF A

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

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SUBSYSTI MDAC ID: ITEM:				ARC 122 DIO	-	FPC	CLOSE								
LEAD ANA	ALY	ST	:	D. 1	HARTMA	N									
ASSESSME	ENT	:													
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* CIL RE				RATIC	NÅLE:	(Ii	f appli	icab	A	DEQUA DEQUA		[]		
NO DIFFE	KEN	ICE	S.												

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SUBSYSTEMDAC ID:	M:			ARG 122 DIG	214	_	GP	C OF	PEN											
LEAD ANA	LYS	T:		D.	HAR	TM	IAN	Ī												
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	CRI		CALI				RE	EDUNI	DAN	CY	7	SCRI	EENS	3			CI		ſ	
	H		LIGHT 1/FUN				A			E	3			С						
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COMPARE	[/]		[]	(]	Ŋ]	[]		[]	
RECOMMEN	IDA'	ric	ons:		(If	d	if:	fere	nt	f	rc	om N.	ASA)						
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REMARKS		NC	ES.																	

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SUBSYST MDAC ID ITEM:			ARC 122 DIC	_	SPC ·	OPEN						-	
LEAD AN	ALYS	T:	D.	HARTMA	N								
ASSESSMI	ENT:												
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	Н	DW/FU	INC	A	•	B	}	(C		ITE	iM	
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REMARKS:		CES.						INA	DEQUA	ΓE	[]	

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LEAD ANA	LYS	T:		D.	HAR	TM	IAN	Ī										
ASSESSME	ENT	:																
	CRI		CAL				RE	DUND	AN	CY	SCREE	NS	3			CIL		
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COMPARE	[/]		[]	[]	[3		[]	
RECOMME	NDA	TI	ons:		(If	đ	if:	ferer	nt	fr	om NAS	SA)					
	[/]		[]	[]	[]	(A] .DD/1) DEL	ETE)
* CIL R		NT:	ION	RA!	CION	AL	E:	(If	ap	pl	icabl			DEQU <i>I</i> DEQU <i>I</i>]	
REMARKS	:																	

NO DIFFERENCES.

APPENDIX C

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	ASSESSM NASA FM	ENT ID EA #:	: ARG	CS-122 -6KA-2	17X 255C	-2			BASE	ELINE NEW	[[]	
	SUBSYST: MDAC ID ITEM:		ARC 122 DIC	217	MANU	AL OPE	:N				-	•	
	LEAD AND	ALYST:	D.	HARTM	AN								
	ASSESSMI	ENT:											
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	COMPARE	[/		Į.]	[J	[]]	
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NO DIFFERENCES.

REMARKS:

ADEQUATE [] INADEQUATE []

ASSESSME ASSESSME NASA FME	NT	ID	TE:	ARG	CS-1	22	18 25	X 5D-1						SA DA	INE]	
SUBSYSTE MDAC ID: ITEM:				ARG 12: DIG	218	_	MA	NUAL	CI	က်	E							
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	Ī										
ASSESSME	TN:	:																
	CR		[CAL]				RE	DUND	ANO	CY	SCRE	ENS	5			CIL		
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COMPARE	[/]		[1	[N]	[]		[]	
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_	ί		/)		[]	[1	[1	(A	[DD/I)EL	ETE)
* CIL R		NT	ION	RAT	ION	AL	E:	(If	ap	pl	icab			DEQU <i>l</i>]	
REMARKS	:																	

NO DIFFERENCES.

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SUBSYST MDAC ID ITEM:					CS 219 ODE - M	IANU	AL CLO	SE						
LEAD AN	ALY	ST	}	D.	HARTMA	N								
ASSESSM	ENT	:												
	CR		CAI LIGI	LITY	R	EDU	NDANCY	SCI	REENS			CI		
	1	HDW	/Ft	JNC	A		В		c	:		IT	EM	
NASA IOA	[3 3	/3 /3]]]	[]	[]		[]	*
COMPARE	[/)	[]	[]	[]		Ε]	
RECOMMEN	DA?	ľIO	ns:	(If dif:	fer	ent fro	om N	IASA)					
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REMARKS: NO DIFFE	REN	ICE:	s.							DEQUA		[]	

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	TE:	1/2 ARC 05-	29/88 CS-122 -6KA-2	20 25	X 5E-1						SA DATA: ASELINE NEW		x]		
SUBSYSTEM: MDAC ID: ITEM:		ARC	CS 220						OSE	IN	нівіт					
LEAD ANALYST:	;	D.	HARTN	IAN	•											
ASSESSMENT:																
	[CAL LIGH			RE	DUNDA	NC	Y	SCR	EENS	}		CI	L EM			
HDV	/FU	NC					В			С						
NASA [3 IOA [3	/1R /3]	[P]	[F]	[P]	[X]	*	
COMPARE [/N]	. [N]	[N]	[N	1	[N]		
RECOMMENDATI	ons:		(If d	if	ferent	= :	fro	om 1	NASA))						
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* CIL RETENT	ION	RAT	'IONAL	E:	(If a	аp	pl.	ical		A.	DEQUATE DEQUATE]		
REMARKS: NASA FMEA CO EFFECT.	NTA]	INS	MULTI	PL	E FAI	LU	RE	s.	THI	S	FAILURE	AL	ON	E	HAS	NO
AT MEETING W DISCUSSED. WAS RAISED I			AGREE DIFFEF	ED REN	ואויאטוו	EF	PR	ETA	r. L.J	\mathbf{u}						RES

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88

ASSESSMENT ASSESSMENT NASA FMEA	T ID:	ARCS-	1222	1X 55E-2						ASA DAT BASELIN NI]	
SUBSYSTEM MDAC ID: ITEM:		ARCS 12221 DIODE	- M	ANUAL	0	PEI	1/C1	LOSE	I	NHIBIT				
LEAD ANALY	YST:	D. HAI	RTMA	N										
ASSESSMENT	r:													
	RITICALI	•	R	EDUND	ANC	CY	SCF	REENS	3			IL PEM		
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NASA [IOA [3 /1R 3 /1R]	[P]	[F F]]	P P]	[X X]	*
COMPARE [/]	[]	[]	[]	[]	
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* CIL RETE	NTION R	ATIONA	LE:	(If a	ιpp	li	cab	le)						
										EQUATE EQUATE]	
REMARKS: NASA FMEA INABILITY	CONSIDE TO CLOS	RS MUL	TIPL VALV	E FAI E TO	LU IS	RE:	S. ATE	mu T	c 1	Da er rini			ES	
AT MEETING DISCUSSED. WAS RAISED	TT MWS	AGKE!	ED U	LON I.	HA'	Г'	THE	20/88 ISSI	B, JE	NSTS 2	2220 PLE	6 1 F2	WAS AII	JIRF

WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW [X]	
SUBSYSTEM:	ARCS 12222 DIODE - MANUAL CLOSE/OPEN	INHIBIT	
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	ITY REDUNDANCY SCREENS	S CIL ITEM	
	NC A B	С	
NASA [3 /1R IOA [3 /3	[P] [F] [] [] [P] [X] *	
COMPARE [/N] [и] [и] [N] [N]	
RECOMMENDATIONS:	(If different from NASA)	
] [] [] [
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []	
REMARKS: NASA FMEA CONSII EFFECT.	DERS MULTIPLE FAILURES. TH	IS FAILURE ALONE HAS N	ıc
DISCUSSED. IT WAS PAISED DUE	SUBSYSTEM MANAGER ON 1/20/ WAS AGREED UPON THAT THE IS TO DIFFERENT INTERPRETATION ISSUE REMAINS OPEN.		3)

ASSESSM ASSESSM NASA FM	ENT ENT EA	7 E 7 I #:	ATE:	1/2: ARC: 05-	9/88 S-12 6KA-	22	3X 55F-	2					IASA D BASEL		[]	
SUBSYST MDAC ID ITEM:	EM:			ARC:	S 23							I	NHIBI	т				
LEAD AN	ALY	ST	:	D. 1	IART	MA	N											
ASSESSMI	ENT	:																
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NASA IOA]	3	/1R /1R]	[[P P]]	F F]	[P P]		[X X] *]	
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDA'	ric	ons:	(I	f di	if1	feren	ıt f	rc	m	NASA))						
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REMARKS:											IN	IAD	EQUAT EQUAT	Έ	•]		
NASA FME INABILIT ALL REDU EXPELLED	NDA	LNC	Y TO	OPE	AT V	VE E	VAI.V	COM	мπ	MIN	TATE C	DD	11.	-				E S OI

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12224X		SA DATA: ASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12224 DIODE - LIMIT S	SWITCH (OPEN C	IRCUIT)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH	CIL I TEM		
HDW/FU		в с	
NASA [2 /1R IOA [3 /3	[P] []	[F] [P [] [] [X] *] []
COMPARE [N /N] [N]	[N] [N] [N]
RECOMMENDATIONS:	(If differen	t from NASA)	
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* CIL RETENTION	RATIONALE: (If	applicable) A INA	DEQUATE [] DEQUATE []
REMARKS: NASA FMEA CONTA EFFECT.	INS MULTIPLE FAI	LURES. THIS	FAILURE ALONE HAS NO
DISCUSSED. IT WAS RAISED DUE	SUBSYSTEM MANAG WAS AGREED UPON TO DIFFERENT INT	THAT THE 1330 TERPRETATIONS	, NSTS 22206 WAS E (MULTIPLE FAILURES) OF NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' [' I #:	ATE:	1/29 ARCS 05-6	/88 -1222 KA-22	25X 255-:	2		N	ASA DAT BASELIN NE			
SUBSYST	EM:			ARCS 1222	5				(OPEN	CIRCUIT)		
LEAD AND	ALY	ST	:	D. H2	ARTMA	N							
ASSESSMI	ENT	:											
		F	LIGH	_	R	EDUN	IDANCY	sc:	REENS		CI IT		
]	HD	W/FU	NC	A		E	3	С			TI.1	
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COMPARE	[/]	[]	[]	[]	Ţ]	
RECOMMEN	DA'I	CIC	ons:	(If	dif	fere	nt fr	om 1	NASA)				
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REMARKS:									INAL	EQUATE EQUATE	-]	
THIS FAI POSITION TO FALSE OPERATION	LY	FA	LUUNL	JANCY	PROVI	THEFT	TA	22 A	אר דו	DEDTES			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12226X 05-6KA-2255-1	NASA DA BASELI N	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12226	SWITCH (CLOSE CIRCU	JIT)
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH		ANCY SCREENS	CIL ITEM
HDW/FU	NC A	В С	
NASA [2 /1R IOA [3 /3	[P]] []	[F] [P] [] []	[X] * []
COMPARE [N /N			[и]
RECOMMENDATIONS:	(If differen	t from NASA)	
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* CIL RETENTION	RATIONALE: (If	applicable) ADEQUA INADEQUA	
REMARKS: NASA FMEA CONTAI EFFECT.	INS MULTIPLE FAI	LURES. THIS FAILU	RE ALONE HAS NO
DECOMPOSED IN I	WAS AGREED UPON TO DIFFERENT INT	ER ON 1/20/88, NST THAT THE ISSUE (MU PERPRETATIONS OF NS	PLIEDE LVINOVDO

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12: 05-6KA-:	227X 2255-2				ASA DATA BASELINE NEW]	
MDAC ID:	ARCS 12227 DIODE -	LIMIT :	SWIT	CH (C	LOSE	CIRCUIT	')		
LEAD ANALYST:	D. HARTI	IAN							
ASSESSMENT:									
CRITICAL FLIGH	ITY	REDUNDA	ANCY	SCREE	ens		CIL		
	NC	A	В		С		ITE	M	
NASA [3 /3 IOA [3 /3] []	[]	[]	[]	*
COMPARE [/] []	[]	[]	[]	
RECOMMENDATIONS:	(If di	fferent	fro	om NAS	A)				
[3 /2R —] - [Ρj	[P]	[P		[DD/DE] ELE	TE)
* CIL RETENTION F	RATIONALE	: (If a	ppli	cable					
REMARKS:					INAL	EQUATE EQUATE			
THIS FAILURE MAY POSITION. REDUND TO FALSELY FAILIN OPERATIONS.	ANCY PRO	VIDED.	$I\OmegaC$	COF	NTT	DEDIMINAN			

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-1222 05-6KA-22				[x]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12228 DIODE - G	PC CLOSE	3			
LEAD ANALYST:	D. HARTMA	N				
ASSESSMENT:						
CRITICAL		EDUNDANG	CY SCREEN	is	CIL ITEM	
FLIGH HDW/FU			В	С	_	
NASA [3 /3 IOA [3 /1F] [;] [F] [NA]	[] [P]	[] *
COMPARE [/N] []	1][N]	[и]	[]
RECOMMENDATIONS:	(If dia	fferent	from NAS	A)		
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* CIL RETENTION	RATIONALE	: (If ap) ADEQUATE INADEQUATE	[]
REMARKS: LOSE GPC COMMANI MANUAL COMMAND. THRUSTER LEAK.	TO CLOSE	THE VAL ALL REDU	VE. RED INDANCY P	UNDANCY PRO REVENTS ISO	VIDEI LATI(WITH ON OF A

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSM NASA FM	ENT	' I	D:	ARC	9/88 S-1222 6KA-22					NASA BAS	ELIN:) X]	
SUBSYST MDAC ID ITEM:				ARC 122 DIO		SPC	CLOSE							
LEAD AN	ALY	ST	:	D.	HARTMA	AN .								
ASSESSM	ENT	:												
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NASA IOA]	3 3	/3 /3]]]	[]]]		[]	*
COMPARE	[/]	ι]	[]	[]		[]	
RECOMMEN	IDAT	ric	ons:	(:	If dif	fere	ent fr	om N	ASA)					
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* CIL RE	CTEN	T]	ON	RATIO	NALE:	(If	appl	icab		DEO	3 MB		_	
REMARKS: NO DIFFE		CE	s.							DEQU.		[]	

ASSESSMEI ASSESSMEI NASA FME	TN	ID		ARC	CS-1	22	30	X 5B-1						SA DA BASELI 1	INE	[x]	
SUBSYSTEM MDAC ID:	M:				230	-	GF	ec of	PEN									
LEAD ANA	LYS	T:	:	D.	HAR	TN	IAN	ſ										
ASSESSME	NT:	:																
	CRI		[CAL]				RE	EDUNI	NAC	CY	SCR	EENS	3			CIL		
	F		LIGHT W/FUN				A			В			С					
NASA IOA	[3	/1R /1R]]	((P N2] A]	[P P]		[]	*
COMPARE	[/]		[]	[N]	[]		[]	
RECOMMEN	IDA!	rI	ons:		(If	d:	if:	fere	nt	fr	om N	IASA))					
]		[]	[]	[]	(A	[DD/D	EL.	ETE)			
* CIL RE	ION :	ION	ΑL	Е:	(If	ap	pl	icab			DEQUA DEQUA		[]				
REMARKS:		NC	ES.															

ASSES ASSES NASA	SSM	ENT	I	D:	ΑÍ	/29/ RCS- 5-6K	12	23								ASA DA BASELI 1		[) X]	
SUBSY MDAC ITEM:	ID				12	RCS 232 ODE	_	M.	ANU	IAL	0	PEI	N							
LEAD	AN	ALY	ST	:	D.	HA	RT:	MA:	N											
ASSES	SSM	ENT	:																	
			F	ICAL LIGH W/FU	r	•		Ri A	EDU	ND?	ANO	CY B	sc	REEN	s c			CII		
	SA OA	[3	/1R /1R]		[P P]		[P P]]]]	P P]		[]	*
COMPA	RE	[/]		[]		[]	[]		[]	
RECOM	MEN	IDA!	FI (ons:		(If	đi	ifi	fer	ent	: f	rc	om I	NASA))					
		[/]		[]		[]	[]	(AD	[D/D		ETE
* CIL REMAR NO DI	KS:				RAT	IONA	ALE	E:	(I	f a	pp	li	.cal	-		EQUAT EQUAT		[]	

ASSESSMEN ASSESSMEN NASA FME	1T	ID		ARC	1/29/88 NASA ARCS-12233X BAS 05-6KA-2255C-2								[x]	
SUBSYSTEM MDAC ID:	м:			ARC 122 DIC	33	- MA	NUAL	OPE	N						
LEAD ANA	LYS	T:	:	D.	HAR'	TMAN									
ASSESSME	NT:	;													
	CR]		ICAL			RE	DUND	ANCY	SCR	EENS			CIL		
	I		LIGH W/FU			A		В	ı	(2				
NASA IOA	[3	/3 /3]		[]	[[]	[]		[]	*
COMPARE	[/]		[]	[]	[3		[]	
RECOMMEN	DA'	ΓI	ons:		(If	difi	erer	nt fr	om N	IASA)					
	(/]		ĺ]	[3	[]	(A	[DD/I)ELF	ETE)
* CIL RE	ETE	NT	ION	RAT	IONA	LE:	(If	app]	Licak		ADEQUA ADEQUA		[]	٠
DEMADES	•														

NO DIFFERENCES.

ASSESSMENT DATI ASSESSMENT ID: NASA FMEA #:	ARCS-	1223	4X 55D-1	NASA DATA: BASELINE [NEW [X						
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12234 DIODE		ANUAL	CLO	SE			-	•	
LEAD ANALYST:	D. HA	RTMA	N							
ASSESSMENT:										
CRITICA FLIG		R	EDUNDA	Y NCY	SCRE	EENS	5		IL	
HDW/F	UNC	A		В			С	1.7	rem	
NASA [3 /1 IOA [3 /1	R] R]	[P]	[P] A]	[P] P]]] *	
COMPARE [/	J	[]	[N]	[]	[3	
RECOMMENDATIONS	: (If	difi	ferent	fro	om NA	SA)				
- (/]	[]	[]	[]	[(ADD/] DELET:	E,
* CIL RETENTION	RATIONA	ALE:	(If a	ppli	.cabl		ADEQUATE		j	
REMARKS: NO DIFFERENCES.						TN.	ADEQUATE] 3]	

ASSESSMEN ASSESSMEN NASA FMEA	T ID	TE:	ARCS	NASA DATA: 29/88								
SUBSYSTEM MDAC ID:	:		ARCS 1223 DIO		NUAI	cros	SE					
LEAD ANAI	LYST:		D. 1	HARTMAN	Ī							v.
ASSESSMEN	T:											
(CRIT	CAI	YTI	RI	EDUN	DANCY	SCR	EENS			CIL	A.
		LIGH W/FU		- P C								
NASA	[3	/3]	[]	[[]	[]		[[] *
IOA	[3	/3	1				1	ſ	1		[]
COMPARE	[/]	[}	[J	L	J		•	
RECOMMEN	DATI	ONS	:	(If dif	fere	ent fr	om 1	NASA)				
	[/]	Ι	3	[]	[]	(A	DD/E	ELETE)
+ CIL RE		TION	RAT	ionale:	(I:	f app	lica		ADEQU.		[]
NO DIFF	EREN	CES.	•									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:	1/29/88 ARCS-12236X 05-6KA-2255E-1	NZ 1	ASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12236 DIODE - MANUAL		-
LEAD ANALYST:			
ASSESSMENT:			
CRITICALI FLIGHT HDW/FUN	1.201102	NCY SCREENS	CIL I TEM
		В С	
NASA [3 /1R IOA [3 /3] [P]] []	[F] [P]	[X] *
COMPARE [/N] [N]	[и] [и]	
RECOMMENDATIONS:	(If different	from NASA)	
[3 /3]		, ,	[D] (ADD/DELETE)
* CIL RETENTION RA	TIONALE: (If an	nlicables	, , ======,
	(w <u>r</u>		QUATE []
REMARKS:		INADE	QUATE []
NASA FMEA CONTAINS EFFECT.	MULTIPLE FAILU	RES. THIS FA	ILURE ALONE HAS NO
AT MEETING WITH SU DISCUSSED. IT WAS WAS RAISED DUE TO THEREFORE, THIS IS:	TEFFDENM TIME	1000E	NSTS 22206 WAS (MULTIPLE FAILURES) NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM:	ARCS 12237 DIODE - MANUAL OPEN/CLOSE	INHIBIT								
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:										
CRITICAL FLIGH	CIL ITEM									
HDW/FU	NC A B	С								
NASA [3 /1R IOA [3 /1R	[P] [F] [[P] [F] [P] [X] * P] [X]								
] []								
RECOMMENDATIONS:	(If different from NASA)								
	R] [P] [F] [
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []								
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE CAUSES INABILITY TO CLOSE THE VALVE TO ISOLATE A THRUSTER LEAK.										
DISCUSSED. IT	AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.									

ASSESSMI ASSESSMI NASA FMI	ENT	ID):	Al	ARCS-12238X BASELII										[x]					
SUBSYSTI MDAC ID: ITEM:				12	RCS 2238 CODE	38 DE - MANUAL CLOSE/OPEN INHIBIT																
LEAD ANA	ALYS	T:		D.	НА	RT	MA	N														
ASSESSME	ENT:																					
		FL:	CAL:	r	7		R	EDU	NDA	N	CY	sc	REE	NS	3				IL Cem	•		
	H	DW,	/FUI	4C			A				В				С				L LIA	•		
NASA IOA	[3 /	/1R /3]]	P]]	F]		[P]		[x]	*	
COMPARE	[/	/N]		[N]		[N]		[N]		[N]		
RECOMMEN	DAT:	101	ls:		(If	đi	ff	er	ent	f	rc	m	NAS <i>i</i>	A)								
_	[:	3 /	/3]		[]	-	[]	ĺ	-]	(AD		D DE		TE)	
* CIL RE	TENT	ric	N R	AT:	IONA	LE	:	(I:	f ap	gc	li	cal	ble)									
REMARKS:																EQUAT! EQUAT!		[]]		
NASA FME EFFECT.	A CC	ons	IDE	RS	MUL	MULTIPLE FAILURES. THIS FAILURE									RE .	AL	ON	E	HAS	NO		

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12 05-6KA	3 2239 -225	X 5 F- 2	NASA DATA: BASELINE NEW						
SUBSYSTEM:	ARCS				N INHIBIT					
LEAD ANALYST:	D. HAR	TMAN								
ASSESSMENT:										
CRITICAL FLIGH		RE	DUNDANG	CY SCREE	ns	CIL ITEM				
	NC	A		В	С					
NASA [3 /1R IOA [3 /1R]	[P] [F] F]	[P] [P]	[X] * [X]				
COMPARE [/				1		[]				
RECOMMENDATIONS:	(If	diff	ferent	from NAS	SA)					
[3 /1F —	2]	[P] [F]		[X] .DD/DELETE)				
* CIL RETENTION	RATIONA	ALE:	(If ap	plicable	e) ADEQUATE INADEQUATE	[]				
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE INABILITY TO OPEN THE VALVE IF COMMAND WAS FROM THE GPC. LOSS OF ALL REDUNDANCY TO OPEN THE VALVE PREVENT PROPELLANTS TO BE EXPELLED TO MEET LANDING CONS										
AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.										

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ent	'I	D:	ARCS	ARCS-12240X BASELIN									x]				
SUBSYSTI MDAC ID: ITEM:				ARCS 1224 DIOD	40 DE - LIMIT SWITCH (OPEN CIRCUIT)														
LEAD ANA	ALY	ST	:	D. H	ART	MA	N												
ASSESSME	ENT	:																	
		F	LIGH'											CIL ITEM					
		HD	W/FU	NC		A			В			C					_		
NASA IOA	•	2 3	/1R /3]	[P]]	F]]	P]		[x]	*	
COMPARE	[N	/N]	[N]	[N]	[N]		[N]		
RECOMMEN	DA'	ri	ons:	(I	f d:	if	fer	ent 1	fro	om	NASA))							
	[3	/3]]	[]	[]	(2	[ADD/	D DE		ETE)
* CIL RE	TE	T	ION F	OITAS	NALI	E:	(I	f app	li	ca	ble)								
REMARKS:											IN			ATE ATE]		
NASA FME EFFECT.	A (CON	TAIN	is Mui	LTIE	LE	E F	AILUR	ES	· .	THIS	F	AIL	URE	ALC	NE	: н	IAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12241	RCS-12241X BASELIF 5-6KA-2255-2 NI								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12241 DIODE - LI	MIT SWIT	CH (OPE	N CIRCUIT)						
LEAD ANALYST:	D. HARTMAN	1								
ASSESSMENT:										
CRITICAL		EDUNDANCY	S	CIL						
FLIGH HDW/FU		A B C								
NASA [3 /3 IOA [3 /3] [] [] [] []	[] *				
COMPARE [/] [] [] []	[]				
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)						
[3 /2F	[P] [P]	[P] (A)	[DD/DE] ELETE)				
* CIL RETENTION	RATIONALE:	ONALE: (If applicable) ADEQUATE [] INADEQUATE []								
DOCUMENT OF DEDIES	IDANOV DDON	INADEQUATE [] USE LOSS OF ACCURATE INDICATION OF THE VALVE CY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD THE VALVE CLOSED, POSSIBLY EFFECTING MISSION								

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12242X 05-6KA-2255-1	DATA: ELINE [] NEW [X]							
	ARCS 12242 DIODE - LIMIT	SWITCH (CLOSE CI	RCUIT)						
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICALI FLIGHT		DANCY SCREENS	CIL ITEM						
HDW/FUN									
NASA [2 /1R IOA [3 /3	[P]] []	[F] [P]	[X] *						
COMPARE [N /N] [и]	[N] [N]	[N]						
RECOMMENDATIONS:	(If differen	t from NASA)							
[3 /3] []	[] []	[D] (ADD/DELETE)						
* CIL RETENTION R	ATIONALE: (If	ADEQU							
REMARKS: NASA FMEA CONTAINS EFFECT.	S MULTIPLE FAI	INADEQU							

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMEN ASSESSMEN NASA FME	TV	ID		1/29/88 NASA DATA ARCS-12243X BASELINE 05-6KA-2255-2 NEW]	
SUBSYSTEM MDAC ID:	M:			ARCS 12243 DIODE	- L	IMIT :	SWIT	CH (C	LOSE	CIRCUI	r)	
LEAD ANA	LYS	T:		D. HAI	RTMAI	N						
ASSESSME	NT:	;										
•	CRI		CAL		R	EDUND	ANCY	SCRE	ENS		CIL	4
	I		LIGH'		A		В		С			
NASA IOA	[3	/3 /3]	[]	[]]	[]	[] *]
COMPARE	[/]	[]	[1	[1	[]
RECOMMEN	DA'	rI(ons:	(If	dif	feren	t fr	om NA	SA)			
	[3	/2R]	[P	1	[P]	[F	,]	[ADD/D] ELETE)
* CIL RE	TE	NT	ION	RATION	ALE:	(If	appl	icabl	P	DEQUATE	_]
REMARKS: THIS FAI	LU	RE	MAY	CAUSE	LOS	S OF	ACCU	RATE	IND	CATION	OF TH	E VALVE

POSITION. REDUNDANCY PROVIDED. LOSS OF ALL REDUNDANCY MAY LEAD TO FALSELY FAILING THE VALVE CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12244X 05-6KA-2255A-1	NASA DATA: BASELINE [] NEW [X]
	ARCS 12244 DIODE - GPC CLOSE	
LEAD ANALYST:	D. HARTMAN	
ASSESSMENT:		
CRITICALI FLIGHT		S CIL ITEM
HDW/FUN	IC A B	C
NASA [3 /3 IOA [3 /1R] [] [] [] [P] [NA] []
COMPARE [/N] [и] [и] [N] []
RECOMMENDATIONS:	(If different from NASA)
- [/] [][][] [] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If applicable)	
	_	ADEQUATE [] NADEQUATE []
REMARKS: LOSE GPC COMMAND MANUAL COMMAND. THRUSTER LEAK.	TO CLOSE THE VALVE. REDUI LOSS OF ALL REDUNDANCY PRI	NDANCY PROVIDED WITH

SUBSYSTEM MANAGER STATED THAT THE GPC IS NOT USED TO ISOLATE A THRUSTER LEAK BECAUSE TIME TO EFFECT IS UP TO 24 HOURS (SOFTWARE HAS TO BE MANUALLY LOADED). IOA WITHDRAWS THEIR ISSUE BASED ON THIS RATIONALE.

ASSESSME ASSESSME NASA FME	NT	ID		1/29/ ARCS- 05-6F	1224		2			ASA D BASEL		[]	
SUBSYSTE MDAC ID:	M:			ARCS 12245 DIODI	5 E – G	PC C	LOSE							
LEAD ANA	LYS	T:		D. H	ARTMA	N								
ASSESSME	NT:	;												
	CRITICALITY FLIGHT						DANCY	SCR	EENS			CIL		
	F		/FU		2	١	В		C	:				
NASA IOA	[3	/3 /3]	[]	(]	[[]		[]	*
COMPARE	[/	1	[]	{	3	[]		[3	
RECOMMEN	NDA'	ri:	ons:	(I	f di	ffere	ent fr	om N	ASA)					
-	[/	3	[-]	[]	Ţ]	(A	[.DD/I)ELJ	ETE)
* CIL RI		NT	ION	RATIC	NALE	: (If	f appl	icab	4	ADEQU ADEQU]	
REMARKS	ě													

NO DIFFERENCES.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARCS-	-1224	6X 255B	3 - 1			DATA SELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12246 DIODE		PC	OPEN					-
LEAD ANALYST:	D. HA	RTMA	N						
ASSESSMENT:									
CRITICA FLIG HDW/F	HT	R A		NDANG	CY SCE	REENS		CIL ITEM	1
•				r	_				
NASA [3 /1 IOA [3 /1	R]	[P]	[NA]	[P] [P]		[] *
COMPARE [/]	[]	[n j	[]		[]
RECOMMENDATIONS	: (If	dif	fere	ent f	rom N	ASA)			
[/] .	£]	[]	[]		[D/DE:	
* CIL RETENTION	RATION	ALE:	(If	f app	licab	le)	-	•	•
						ADEQU INADEQU		[]
REMARKS: NO DIFFERENCES.						THADEQ	VUID	ι .	j

ASSESSME ASSESSME NASA FME	NΤ	ID	:	ARC	cs-1	224	7X 55B-	2			ASA I BASEI		[
SUBSYSTEMDAC ID:				ARC 122 DIC	247	- G	PC O	PEN							
LEAD ANA	LYS	T:		D.	HAR	AMT	N								
ASSESSME	NT:	;													
CRITICALITY REDUNDANC										ITEM					
	H		/FU			A	•	В		C	:				
NASA IOA	[3	/3 /3]		[]	ĵ []	[]		[]	*
COMPARE	[/]		[]	[]	ĺ]		[]	
RECOMMEN	DAT	rio	NS:	;	(If	dif	fere	ent fr	om N	IASA)					
_	[/]		[3	[3	[]	(A		DEL.	ETE)
* CIL RE	TEI	TI	ON	RAT	ION?	ALE:	(If	appl	icab	F	ADEQU.		[]	
REMARKS:		NCE	s.										-		

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	ARCS-	88 12248X A-2255C-1								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12248 DIODE	- MANUAI	OPEN							
LEAD ANALYST:	D. HAI	RTMAN								
ASSESSMENT:										
CRITIC FLI	GHT		ANCY S		CIL ITEM					
HDW/	FUNC	A	В	С						
NASA [3 / IOA [3 /	1R] 1R]	[P] [P]	[P] [P]	[P] [P]	[] *					
COMPARE [/]	[]	[]	[]	[]					
RECOMMENDATION	S: (If	differen	t from	NASA)						
_ [/	1	[]	[]	[]	[] (ADD/DELETE)					
* CIL RETENTIO	N RATION?	ALE: (If	applica	able) ADEQUA INADEQUA						
REMARKS: NO DIFFERENCES	•			_						

ASSESSMEN ASSESSMEN NASA FME	T	ID:	ARCS	/88 -12249 KA-225		2			ASA D BASEI		[]	
SUBSYSTEM MDAC ID:	M:		ARCS 1224 DIOI		ANUA:	L OPEI	4						
LEAD ANA	LYS	T:	D. I	IARTMAI	N								
ASSESSME	NT:												
	CRI	TICA		R	EDUN	DANCY	SCR	EENS			CII		
	Н	FLIGI IDW/F		A		В		C	:				
NASA IOA	[3 /3 3 /3]	[]	[[]	[]		[]	*
COMPARE	[/	3	[]	[]	[1		[]	
RECOMMEN	DA'	CIONS	: (If dif	fere	nt fr	om N	ASA)					
	[/]	[]	[]	[]	(A	[.DD/1] DELE	ETE)
* CIL RI	ETEI	NTION	RATI	ONALE:	(II	f appl	icab		ADEQU ADEQU		[]	
DEMARKS	,												

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-122		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12250 DIODE - 1	MANUA:	L CLO	SE						
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
CRITICALI FLIGHT		REDUNI	DANCY	SCRE	ens			CIL ITEN		
HDW/FUN		A .	В			C		TIE	71	
NASA [3 /1R IOA [3 /1R] [1	?] ?]	[P [N] A]	[]	P] P]		[] *	
COMPARE [/] []	[N]	[]		[]	
RECOMMENDATIONS:	(If dif	feren	t fro	om NAS	SA)					
- 1] []	[]	ĺ			[D/DE] ELETE)	
* CIL RETENTION R	ATIONALE:	(If	appli	cable	7	ADEQUAT!		[]	
REMARKS: NO DIFFERENCES.					INA	ADEQUAT!	E	[j	

ASSESSME ASSESSME NASA FME	NT	II):	ARC	19/88 CS-1225 -6KA-22		2		N		DATA: LINE NEW	[]			
SUBSYSTE MDAC ID:				ARC 122 DIC		1ANUA	L CLO	SE									
LEAD ANA	LYS	ST:	:	D.	HARTM	AN											
ASSESSME	NT	:															
	CR			YTI	I	REDUN	IDANCY	SCR	EENS			CIL ITEM					
	I		LIGH W/FU		1	A	В	}	(2				•			
NASA IOA	[3	/3 /3]	[]	[]	[]		[]	*		
COMPARE	[/]	[]	[]	[1		[]			
RECOMMEN	IDA!	ri(ons:	. ((If di	ffere	ent fr	om N	ASA)								
_	[/]	[]	[]	ι.]	(A	[DD/	/DF] ELF	ETE)		
* CIL RI	e te l	NT:	ION	RAT	IONALE	: (If	f appl	icab	i		JATE JATE	[]			
REMARKS:		NC:	ES.														

	NT ID	: Al	ARCS-12252X BASELII 05-6KA-2255E-1 NI]	
SUBSYSTE MDAC ID:		12	RCS 2252 CODE -	MAI	NUAL O	PEI	N/C	LOSE	IN	HIBIT				
LEAD ANA	LYST:	D.	HARTI	IAN										
ASSESSME	NT:													
		CALITY IGHT /FUNC	?	REI A	DUNDAN	CY B	sc		CIL ITEM					
NASA	•		г	p ·	1 r	म	1	г	D	1	r	v	7 4	
	[3 /	/3]	[• :] []	[F	1	(X]	
COMPARE	[/	/ N]	[N j] [N]	[N	1	[N]	
RECOMMEN	DATION	Ns:	(If di	.ffe	erent	fro	om	NASA)						
_	[3 /	/3]	[] []	[] (2	[ADD,	D / DE] CLETE)
* CIL RE	TENTIC	ON RAI	IONALE	: ((If ap	pli	ca	•		EQUATE EQUATE	_]	
REMARKS: NASA FME EFFECT.	A CONT	TAINS	MULTIF	LE	FAILU	RES	5.	THIS	F.	AILURE	AL	ONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122 05-6KA-2		NASA DATA: BASELINE NEW	[x]						
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12253 DIODE -	MANUAL C	PEN/CLOS	E INHIBIT						
LEAD ANALYST:	D. HARTN	AAN			,					
ASSESSMENT:										
CRITICAL	CIL ITEM									
FLIGH HDW/FU	С									
NASA [3 /1F	HDW/FUNC A B C [3 /1R] [P] [F] [P] [3 /1R] [P] [F]									
COMPARE [/] [1	[]	[]	[]					
RECOMMENDATIONS	(If d	lifferent	from NAS	SA)						
[3 /1]		P]	[F]	[P]	[X] .DD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) * ADEQUATE [] INADEQUATE []										
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE CAUSES INABILITY TO CLOSE THE VALVE TO ISOLATE A THRUSTER LEAK.										

THEREFORE, THIS ISSUE REMAINS OPEN.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.

ASSESSM ASSESSM NASA FM)A [D :	TE:	ARCS-12254X 05-6KA-2255F-1								NASA DATA: BASELINE [] NEW [X]											
SUBSYSTI MDAC ID ITEM:					1	RCS 2254 IODI		· M	ΙAΝ	UAL	С	LO	SE	/OPEN	ı	NHI	ВІТ					
LEAD AND	ALY	SI	':		D	. HA	RT	MA	N													
ASSESSME	ENT	:																•				
		r	TI	.Gn	T.			R	EDU	JNDA	N	CY	S	CREEN	s				IL TEI			
								A				В			C			1.	LEI	7		
NASA IOA	[3	/	'1R '3]]	P]		[F]	[P]		[x]	*	
COMPARE	[/	N)		[N]		[N]	[N]		[N]		
RECOMMEN	DAT	PIC	NC	s:		(If	đ	fí	er	ent	f	rc	m	NASA)	ı							
_																j	(AI	[DD/	D DE] LE	TE)	
* CIL RE	ren	TI	:01	N R	AT	ION	LE	:	(I	f ap	qc	li	ca	ble)								
REMARKS:														IN	AD	EQU2	ATE	[]		
NASA FME	4 C	ON	S	LDE	ŖS	MUI	ΛI	PL	E]	FAII	JU.	RE	s.	THI	s	FAII	LURE	AL	ON	E I	HAS	NO
AT MEETIN DISCUSSED WAS RAISE THEREFORE	D	DU:	E	TO	ומ	नमन	יים סדים	um.	TN	ממשו	n.	7	1, THI	/20/8 E ISS TIONS	8 , UE O	NSI (MU F NS	S 22 LTIP TS 2	206 LE 220	5 V F2)6,	VAS	S LURI	ES)

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122 05-6KA-2	55X 255 F- 2		NASA DATA: BASELINE NEW	[] [x]					
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12255 DIODE -	MANUAL CL	OSE/OPEN	INHIBIT						
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
		REDUNDANC	Y SCREENS		CIL ITEM					
HDW/FU	NC		В	С						
NASA [3 /1R IOA [3 /1R										
COMPARE [/]. [] [] [1	[]					
RECOMMENDATIONS:	(If di	ifferent f	rom NASA)						
[3 /1F	.] [P] [F] [P] (A)	[X] DD/DELETE)					
* CIL RETENTION	RATIONALI	E: (If app	olicable) I	ADEQUATE NADEQUATE						
REMARKS: NASA FMEA CONSIDERS MULTIPLE FAILURES. THIS FAILURE MAY CAUSE INABILITY TO OPEN THE VALVE IF COMMAND WAS FROM THE GPC. LOSS OF ALL REDUNDANCY TO OPEN THE VALVE PREVENT PROPELLANTS TO BE EXPELLED TO MEET LANDING CONS										
AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.										

ASSESSMEN ASSESSMEN NASA FMEN	NT DAT NT ID: A #:	TE: 1/29 : ARCS 05-6	9/88 5-12256} 5KA-2035	ζ 5−1		NASA DATA BASELINE NEW	
SUBSYSTEMDAC ID:	M :	1225	5 6			OGIC SWIT	CH 3
LEAD ANAI	LYST:	D. H	IARTMAN				
ASSESSMEN	VT:						
C	FLI	ALITY GHT	RED	UNDANCY	SCREENS		CIL ITEM
	HDW/	FUNC	A	В	1	С	11511
NASA IOA		1R] 2]	[P] []	[F] [P]	[X] * [X]
COMPARE	[N /	и ј	[и]	[N] []	N]	[]
RECOMMEND	ATION	s: (I	f diffe	rent fro	om NASA)		
_	[2 /	2]	[]	[] [] (AI	[X] DD/DELETE)
* CIL RET	ENTIO	N RATIO	NALE: (If appli	.cable)		
REMARKS:					INA	ADEQUATE ADEQUATE	[]
NO DIFFER	ENCES 5 EFFI	FOR MAI ECTS ALS	NIFOLDS SO (2/2)	1-4. N	ASA FMEA	SHOULD I	NCLUDE BOTH
ISSUE NOT	RESOI	LVED AT	THE MEE	TING WI	TH THE S	UBSYSTEM	MANAGER ON

1/20/88.

ASSESSMEN ASSESSMEN NASA FMEA	II II	TE:	ARCS	9/88 5-12257 5KA-203	X 5-2		ASA D BASEI		x]		
SUBSYSTEM MDAC ID:	1 :		ARCS 1225 RJD		' L5/ 1	GIC S	WITC	ł 3				
LEAD ANA	LYST	:	D. 1	HARTMA1								
ASSESSME	T:											
(CRIT:			RI	EDUN	DANCY	SCR	EENS			CIL ITE	
FLIGHT HDW/FUNC A B C												
NASA IOA	[3	/3 /3]	[]	ľ]	[[].		[] *
COMPARE	[/	3	ί]	[3	[1		[]
RECOMMEN	DATI	ONS:	: (If dif	fere	ent fr	om N	ASA)				
	[/	3	[]	[]	[]	(AI	[)D/I] DELETE)
* CIL RE		NOI	RATI	ONALE:	(II	f app]	Licab	4	ADEQU ADEQU		[]
REMARKS:		CES.								-		

ASSESSM ASSESSM NASA FM SUBSYST: MDAC ID ITEM: LEAD AND	ent Ea Em: :	st	D:	ARC 05- ARC 122 RJI	CS-122 -6KA-2 CS !58	035 - 1/L5	·2	ANIF(NEW [хj		
	CR		ICAI LIGI	LITY	F	REDU	NDANCY	SCI	REENS		CI	_		
		HD	W/Ft	JNC	A	L	E	3	(С	ITEM			
NASA IOA]	3 3	/3 /3]]]	[]]]	[]	*	
COMPARE	[/]	ί]	[]	[]	[]		
RECOMMEN	DA:	ric	ons:	(:	If dif	fere	ent fr	om N	ASA)					
_	[/]	[]	[3	[]	[(ADD/1] DELE	TE	
* CIL RETENTION RATI REMARKS: NO DIFFERENCES.					ONALE:	(If	appl	icab	A	.DEQUAT .DEQUAT]		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122 05-6KA-2		-1	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12259 RJDA1B	L1/L	5/R1 M	ANIFOLD	LOGIC SWITC	СН 3					
LEAD ANALYST:	D. HART	MAN									
ASSESSMENT:											
CRITICAL		RED	UNDANC	Y SCREE	ens	CIL ITEM					
FLIGH HDW/FU		В	С								
NASA [3 /1R IOA [3 /1R] [P] P]	[F] P]	[P] [P]	[X] * []					
COMPARE [/] [1	ί	и]	[]	[N]					
RECOMMENDATIONS:	(If d	liffe	rent f	rom NA	SA)						
[/] (]	[]	[.]	[] ADD/DELETE)					
* CIL RETENTION	RATIONAL	LE: ((If app	plicabl	e) ADEQUATE INADEQUATE	[]					
REMARKS: IOA AGREES WITH	NASA FM	EA.									

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/ ARCS- 05-6K	88 12260X A-2035-1		NASA [BASE]	DATA: LINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	12260			OLD LOGIC S	WITCH 3
LEAD ANALYST:	D. HAI	RTMAN			
ASSESSMENT:					
CRITICA FLIG	łT	REDUNI	ANCY SCR	REENS	CIL ITEM
HDW/F	JNC	A	В	С	TIDN
NASA [3 /11 IOA [2 /2	R]	[P] []	[F] []	[P] []	[X] * [X]
COMPARE [N /N]	[и]	[N]	[N]	[]
RECOMMENDATIONS:	(If	differen	t from N	ASA)	
[2 /2			[]	[]	[X] (ADD/DELETE)
* CIL RETENTION	RATIONA	LE: (If	applicab:	le)	
REMARKS:				ADEQUAT INADEQUAT	'E [j
NO DIFFERENCES F MANIFOLD 5 EFFEC	OR MANII TS ALSO	FOLDS 1-4 (2/2)	1. NASA	FMEA SHOUL	D INCLUDE BOTH
ISSUE NOT RESOLV	ED AT TH	HE MEETIN	NG WITH T	THE SUBSYST	EM MANAGER ON

1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12261X		BASELINE NEW	
	ARCS 12261 RJDA1B L1/R1	MANIFOLD DE	RIVER SWITCH	4
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL FLIGH HDW/FU	T	NDANCY SCREI B	ens C	CIL ITEM
•		_	r D 1	r · 1 *
NASA [3 /1R IOA [3 /1R] [P]	[P]	[P]	[] *
COMPARE [/] []	[]	[]	[]
RECOMMENDATIONS:	(If differe	ent from NAS	SA)	
[/] []	[]	[] (A	[] DD/DELETE)
* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE: (I	f applicable	≥) ADEQUATE INADEQUATE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12262X 05-6KA-2036-2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12262 RJDA1B L1/R1 MA	ANIFOLD DRIVER SWITCH	I 4
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH		ANCY SCREENS	CIL ITEM
HDW/FU		ВС	11211
NASA [3 /1R IOA [3 /3] [P]] []	[P] [P] [] []	[] *
COMPARE [/N] [N]	[и] [и]	[]
RECOMMENDATIONS:	(If different	t from NASA)	
_ [3 /3] []	[] [] (A	[] ADD/DELETE)
* CIL RETENTION	RATIONALE: (If a	applicable) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONTAI EFFECT.	NS MULTIPLE FAI	LURES. THIS FAILURE	ALONE HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12263X NASA FMEA #: 05-6KA-2036-2 SUBSYSTEM: ARCS MDAC ID: 12263 RJDA1B L1/R1 MANIFOLD DRIVER SWITCH 4													
SUBSYSTEM: MDAC ID: ITEM:		L1/F	a MANI	FOLD	DRIVER	SWITCH	4						
LEAD ANALYST:	D. HAR	TMAN											
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
FLIGHT HDW/FUNC A B C													
-		[P] [P]	[P []	[
COMPARE [/N					[И		[]					
RECOMMENDATIONS	: (If	diff	erent	from	NASA)								
[3 /3	3	ĺ] [1	[] (A	[DD/D:] ELETE)					
* CIL RETENTION	RATION	ALE:	(If ap	plica	ble) A INA	DEQUATE DEQUATE	[]					
REMARKS: NASA FMEA CONTA EFFECT.	LINS MUI	TIPL	E FAIL	JRES.	THIS	FAILURE	ALON	E HAS NO					
AT MEETING WITH DISCUSSED. IT WAS RAISED DUE	H SUBSYS WAS AG TO DIF	FEREN	T INTE	RPRET	L/20/88 HE ISSU ATIONS	, NSTS 2 JE (MULT) OF NSTS	22206 [PLE 2220	WAS FAILURES)					

THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM ASSESSM NASA FM	EN]	נים	D:	ARCS	1/29/88 ARCS-12264X 05-6KA-2036-1							NASA DATA: BASELINE [] NEW [X]							
SUBSYST MDAC ID ITEM:	EM:	}		ARCS 1226 RJDA:		L1	./R1	MA	NIF	OLD	DRI	:VE	R SW		_		•		
LEAD AN	ALY	ST	:	D. H															
ASSESSM	ENT	':																	
	CR		ICAL LIGH	ITY T		R	EDUN	IDA	NCY	SC	REEN	s			CI				
		HD	W/FU									С			IT	ITEM			
NASA IOA	[3 3	/1R /1R]]	P P]		[P]]	P P]		[]	*		
COMPARE	[/		[]		[]	[]		[]			
RECOMMEN	[Ad]	ric	NS:	(If	di	fí	ere	nt	fro	om N	(ASA)	ı							
	-]			-				[]	(A	[DD/[ETE)		
* CIL RE	TEN	TI	ON R	ATION	ALE	:	(If	ap	pli	.cab									
REMARKS: NO DIFFE	REN	CE.	s.								IN	AD)	EQUA EQUA	TE TE	[]			

ASSESSMENT DATE:	1/29/88		NASA	DATA:	
ASSESSMENT ID: NASA FMEA #:	ARCS-1226		BAS	ELINE [X]]
	ARCS 12265 RJDA1B L1,	/R1 MANIFO	LD DRIVER S	WITCH 4	
LEAD ANALYST:	D. HARTMAI	N			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANCY	SCREENS	CIL ITEM	
HDW/FU		В	С		
NASA [3 /1R IOA [3 /1R] [P] [P] [P] [P]] [P]	[X]] *]
COMPARE [/] [] [] []	[и	3
RECOMMENDATIONS:	(If dif	ferent fro	m NASA)		
- (/] [] [] []	[(ADD/DE	
* CIL RETENTION	RATIONALE:	(If appli		UATE [UATE []
REMARKS:			1,,,,,,,,,		

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-1220 NASA FMEA #: 05-6KA-20																	DA ELI N	NE]	
SUBSYSTE MDAC ID:				ARC 122 RJD	66	Ľ2,	/R2	M	AN:	IFO	OLD) LC)G]	IC	sw	ITC	H	3				
LEAD ANA	LYS	ST	:	D.	HA	RTI	IAN	1														
ASSESSMENT:																						
CRITICALITY REDUNDANCY SCREENS FLIGHT															CI	L						
HDW/FUNC A											В				С							
NASA IOA	[3 3	/1R /1R]		[P P]		[P P] [P]] [P]					[]	*		
COMPARE	[/]		[]		[]		[]			[]	
RECOMMEN	DAT	CIC	ons:	(Ιf	d:	if	fer	ent	t i	fro	om	NAS	A))							
[/] []		[]		[]		(A	[DD/	DE:		TE)
* CIL RETENTION RATIONALE: REMARKS: NO DIFFERENCES.							(I:	E a	app	pli	ica		-			UAT UAT		[]		
NO DIFFERENCES.																						

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	TE:	ARC	9/88 S-12267 6KA-203	/X 35-2			N	ASA D BASEL]
SUBSYSTEM MDAC ID:	í:			ARC 122 RJD		/R2 :	MANIF	OLD :	LOGI	SWIT	CH 3		
LEAD ANA	LYS	T:		D.	HARTMA	N.							
ASSESSME	T.												
•	CRI			ITY	R	EDUN	DANCY	SCR	EENS			CIL	
	I		JIGH V/FU		A		В			С			
NASA IOA	[3	/3 /3]	[]	[[]	[]		[] *]
COMPARE	[/	3	[3	[]		[]			[]
RECOMMEN	IDA'	TI	ONS	:	(If dif	fer	ent fr	om 1	NASA)				_
	[/]	C]	[]	[1	(A)	[DD/!	DELETE)
* CIL RI	ETE	NT	ON	RAT	ONALE	: (I	f appl	lical		ADEQU VADEQU		[]
REMARKS	: ERE	ENC	ES.										

ASSESSM ASSESSM NASA FM	EN'	r :	ID:	E: 1/2 ARC 05-	CS-122	268X 2035-	-2		NASA DATA: BASELINE [] NEW [X]						
	SUBSYSTEM: MDAC ID: ITEM: LEAD ANALYST:					L2/R2	MANI	FOLD	LOG	C SWITC		,			
LEAD AN	ALY	SI	?:		HARTM						_				
ASSESSMI	ENT	:													
		F	LIG			REDU	NDANC	Y SCI	REENS		CI				
	HDW/FUI					A		В		С	IT	EM			
NASA IOA	[3 3	/3 /3]	נ נ]	[]	[]]]	*		
COMPARE	[/]	[)	ſ]	[]	[]			
RECOMMEN	DAI	CIC	ONS:	()	f dif	fere	ent fi	com N	ASA)						
-	[/)]			[] ([ADD/[] DELET	ľE)		
* CIL RE	ren	TI	ON	RATIO	NALE:	(If	appl	icab					•		
REMARKS:	REN	CF	S.						INA	DEQUATE DEQUATE	[]			

	1/29/88 ARCS-12269 05-6KA-203		•									
	ARCS 12269 RJDA1A L2/	R2 MANIFOL	D LOGIC SWITCH	3								
LEAD ANALYST:	D. HARTMAN	ī										
ASSESSMENT:												
CRITICAL: FLIGH	r	EDUNDANCY S		CIL ITEM								
HDW/FU	NC A	В	С									
NASA [3 /1R IOA [3 /1R] [P] [P] [F]] [P]	[P] [P]	[X] * []								
COMPARE [/] [] [N]	[]	[N]								
RECOMMENDATIONS:	(If diff	ferent from	NASA)									
[/] [] []	[] ([] ADD/DELETE)								
* CIL RETENTION	RATIONALE:	(If applic	able) ADEQUATE INADEQUATE									

IOA AGREES WITH NASA FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:									
	ARCS 12270 RJDA1A L2/R2	MANIFOLD LOGIC SW	ІТСН 3						
LEAD ANALYST:	D. HARTMAN								
ASSESSMENT:									
CRITICAL FLIGH		DANCY SCREENS	CIL ITEM						
HDW/FU	NC A	ВС							
NASA [3 /1R IOA [3 /1R] [P]] [P]	[F] [P] [P] [P]	[X] * []						
COMPARE [/] []	[N] []	[N]						
RECOMMENDATIONS:	(If differe	nt from NASA)							
- (/] []	[] []	[] (ADD/DELETE)						
* CIL RETENTION :	·		UATE [] UATE []						
IOA AGREES WITH	NASA FMEA.								

ASSESSMENT D ASSESSMENT I NASA FMEA #:		1/29/8 ARCS-1 05-6KA	227		-1						SA DATA ASELINI NEV	E ([x]
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12271 RJDA1A	L	2/R	2 M	ANI	FO	LD	DRI	VER	SWITC	н 4	4	
LEAD ANALYST	:	D. HAR	MT	AN										
ASSESSMENT:														
		YTI	!	RED	UND	ANC	Y	SCI	REEN	S			CIL ITEN	м
	LIGH W/FU			A			В			С				
NASA [-	2]	[P] P]		[P P]	[P P]		[[] *
COMPARE [/]	[)		ĺ]	[]		[]
RECOMMENDAT	IONS	(If	di	.ffe	erer	it i	fr	mc	NASA	r)				
]	/	1	[•]	[]	(•	1	(AI	[DD/D] ELETE)
* CIL RETEN	TION	RATION	ALE	E:	(If	apj	pl	ica			DEQUAT! DEQUAT!		[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122 05-6KA-2	72X 036-2		NASA DA BASELI		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12272 RJDA1A L	2/R2 MA	NIFOLD	DRIVER SWIT	CCH 4	
LEAD ANALYST:	D. HARTM	AN				
ASSESSMENT:						
CRITICALI FLIGHT		REDUNDA	NCY SC	REENS	CIL	
HDW/FUN	ic i	A	В	С	ITEM	
NASA [3 /1R IOA [3 /3] [1	P]	[P]	[P] []	[] *	
COMPARE [/N] [1	4]	[N]	[N]	[]	
RECOMMENDATIONS:	(If dif	fferent	from N	IASA)		
[3 /3) [] []	[]	[] (ADD/DELETE	Ξ)
* CIL RETENTION R	ATIONALE:	(If ap	plicab		_	
REMARKS:				ADEQUATI INADEQUATI		
NASA FMEA CONTAINS EFFECT.	S MULTIPL	E FAILU	RES.	THIS FAILURE	ALONE HAS	NO.

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMI ASSESSMI NASA FMI	ENT	ID:	ARCS-	-1227	2			ATA: INE [NEW [X]	
SUBSYSTI MDAC ID: ITEM:			ARCS 12273 RJDA1		/R2	MANII	FOL	D DRIVER SWI	TCH 4	
LEAD ANA	LYS	r:	D. HA	RTMA	N					
ASSESSME	ENT:									
		PICAL FLIGH		R	EDUI	IDANCY	S	CREENS	CIL	
	HI	OW/FU	NC	A		E	}	С	1111	11
NASA IOA		3 /1R 3 /3]	[P]	[P]	[P] []	[] *]
COMPARE	[/N]	N]	[N]	[N]	[]
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om	NASA)		
	[3	3 /3]	[]	£ (J	[]	[(ADD/DE	
* CIL RE	TENT	'ION I	RATION	ALE:	(If	appl	ica	ble) ADEQUAT INADEQUAT]
REMARKS: NASA FME. EFFECT.	A CO	NTAIN	IS MULT	CIPLE	FA	ILURE	s.	THIS FAILUR	E ALONE	HAS NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES)

WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.

THEREFORE, THIS ISSUE REMAINS OPEN.

EPORT DATE 2/26/88 C-2827

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-122742 05-6KA-2036		NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12274 RJDA1A L2/I	R2 MANIFOLD DR	IVER SWITCH	4	
LEAD ANALYST:	D. HARTMAN				
ASSESSMENT:					
CRITICAL: FLIGHT HDW/FUI	r	DUNDANCY SCREE	ns C	CIL ITEM	
NASA [3 /1R IOA [3 /1R] [P] [P]] [P]	[P] [P]	[]	*
COMPARE [/] [] []	[]	[]	
RECOMMENDATIONS:	(If diff	erent from NAS	A)		
- (/] [] []	[] (A)	[] DD/DEI	LETE
* CIL RETENTION :	RATIONALE:) ADEQUATE INADEQUATE	[]	

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	T I	D:	ARG	29/8 CS-1 -6KA	22										LINE NEW]
SUBSYSTEM MDAC ID: ITEM:	:		ARG 12: RJ	775	I	/2ي	R2	MA	NI	FC	LD	DRIV	ÆR	s SW	ITCH	4	
LEAD ANAL	YST	:	D.	HAR	TM	IAN	Ī										
ASSESSMEN	T:																
c		ICAL				RE	DU	NDA	ИV	CY	SC	REENS	5			CII	
	_	LIGH W/FU				A				В			С				
NASA IOA	[3	/1R /1R]		[P P]		[P P]	[P P]		[] *
COMPARE	[/]		[]		(]	[]		[1
RECOMMENI	CTAC	cons:		(If	d :	if	fer	en [.]	t :	fr	om	NASA)				
-	[/)		[3		[]	[]	(2	[ADD/] DELETE)
* CIL RE	rent	rion	RAT	NOI	λL	E:	(I	f	ap	pl	ica				JATE JATE]
REMARKS:	REN	CES.															

ASSESSME ASSESSME NASA FME	INI INI A	' [' I #:	ATE:	: 1 A 0	L/29/88 NASA DATA ARCS-12276X BASELIN 05-6KA-2035-1 NE														
SUBSYSTE MDAC ID: ITEM:				1	RCS 2276 JDA2										тсн	3			
LEAD ANALYST: D. HARTMAN																			
ASSESSME	NT	:																	
ı		F	ICAI LIGH	T			R	EDU	NDAN	CY	SC	REENS	S				IL TEM		
		HD	W/FU	NC			A			В			C			_	1311		
NASA IOA	[3 2	/1R /2]]	P]	[F]	[P]]	х ј х ј	*	ŗ
COMPARE	[N	/N]		[N	J	[N	3	[N]		[J		
RECOMMEN	DA!	ri	ons:		(If	d:	ifi	fere	ent :	fro	om 1	NASA))						
	[2	/2]		[]	ĵ.]	[]	(2		X]		'E)
* CIL RET	rei	T:	ION :	RAI	CIONA	LE	E :	(If	app	oli	cak				ATE ATE]		
NO DIFFER	REN	CI	ES F	OR	MANI	FC	L)S 1	-4.	N	IASA	FME	A	SHO	ULD	INC	LUD	E	вотн

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON 1/20/88.

MANIFOLD 5 EFFECTS ALSO (2/2)..

ASSESSMENT ASSESSMENT NASA FMEA	! ID:	1/29/8 ARCS-1 05-6KA	.22//					ASA DA' BASELI N		x]
SUBSYSTEM: MDAC ID: ITEM:	;	ARCS 12277 RJDA21	3 L3/	R3/R	5 MAN	VIFOLE) LC	GIC SW	ITCH	3
LEAD ANALY	YST:	D. HAI	RTMAN	ſ						
ASSESSMENT	r:									
CI	RITICA		RI	EDUND	ANCY	SCREI	ens		CI IT	L EM
	FLIGI HDW/F		A		В		(
NASA IOA	[3 /3 [3 /3]	[]	[]	[]	[] *]
COMPARE	[/	1	[]	[3	[]	[]
RECOMMEND	ATIONS	: (If	dif	fere	nt fr	om NA	SA)			
_	[/]	[3	[]	[.]	[(ADD,	DELETE)
* CIL RET	ENTION	RATION	ALE:	(If	appl	icabl.		ADEQUA ADEQUA]

NO DIFFERENCES.

ASSESSM	SSESSMENT DATE: 1/29/88 SSESSMENT ID: ARCS-12278X ASA FMEA #: 05-6KA-2035-2							NASA DATA: BASELINE [] NEW [X]							
SUBSYST MDAC ID ITEM:				ARC 122 RJI	_	J/R3	3/R5 M	ANIF	OLD L	OGIC	SWIT	гсн	3		
LEAD AN	ALY	ST:		D.	HARTMA	N									
ASSESSMI	ENT	:													
	CR		CAI IGH	LITY	R	EDU	NDANCY	SCI	REENS			CI			
	1	HDW	/FU	JNC	A	•	E	3	(:		IT	EM		
NASA IOA	[3 ,	/3 /3]	[]	[]	[]		[[]	*	
COMPARE	[,	/]	[]	[]	[]		[]		
RECOMMEN	DA'I	FIOI	NS:	(If dif	fer	ent fr	om N	ASA)						
_	[,	/]	ſ]	[j	[3	(A	[DD/E] ELE	TE)	
* CIL RE	TEN	TIC	N	RATIO	ONALE:	(II	fappl	icab							
REMARKS: NO DIFFE	REN	ICES	; .							DEQU.		[]		

ASSESSMEI ASSESSMEI NASA FME	T I	D:	ARCS	-122	79X 035-1	L			SA DAT BASELIN NE			
SUBSYSTEM MDAC ID:	1 :		ARCS 1227 RJDA	9	3/R3/	/R5 MA	NIFC	LD LOC	GIC SWI	тсн з	3	
LEAD ANA	LYSI	:	D. F	IARTM	AN							
ASSESSMEI	T:											
•		ICAL LIGH			REDUI	NDANCY	SCF	REENS		CII		
			NC		A	В		С				
NASA IOA	[3	/1R]	[[P] P]	[F [P]	[P [P]	[]	K] *	
COMPARE	[/	1	.[]	[14]	[]	[1	1]	
RECOMMEN	DATI	ons:	()	f di	ffer	ent fr	om 1	NASA)				
	[/	3	[]	[]	[] (] DELET	E)
* CIL RE	TENT	TION	RATI(ONALE	: (I:	f appl	icak	A	DEQUATE DEQUATE]	
REMARKS: IOA AGRE	ES V	HTI	NASA	FMEA	١.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12280X	/29/88 NASA DATA: RCS-12280X BASELINE [] 5-6KA-2035-1 NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12280 RJDA2B L3/R3/R5	80 PA2B L3/R3/R5 MANIFOLD LOGIC SWITCH 3								
LEAD ANALYST:	D. HARTMAN									
ASSESSMENT:										
CRITICALI FLIGHT	CIL ITEM									
HDW/FUN		В С	lich							
NASA [3 /1R IOA [2 /2] [P]] []	[F] [P] [] []	[X] * [X]							
COMPARE [N /N] [N]	[N] [N]	[]							
RECOMMENDATIONS:	(If different	from NASA)								
[2 /2 -] []		[X] DD/DELETE)							
* CIL RETENTION F	RATIONALE: (If a	applicable) ADEQUATE INADEQUATE	[]							
REMARKS: NO DIFFERENCES FO MANIFOLD 5 EFFECT		. NASA FMEA SHOULD I	• 1							

ISSUE NOT RESOLVED AT THE MEETING WITH THE SUBSYSTEM MANAGER ON

1/20/88.

ASSESSMEN ASSESSMEN NASA FME	I TV	D:		122	81X 036	; -1					SA DATA BASELINI NEV]	
SUBSYSTEM MDAC ID:	M:		ARCS 12281 RJDA2	вь	3/F	R3 MAN	IFO	DLD DI	RIV	ÆF	R SWITC	H 4			
LEAD ANA	LYST	:	D. HA	RTM	AN										
ASSESSME	NT:														
•		ICAL			REI	UNDAN	CY	SCRE	ENS	3		_	IL TEM		
		W/FU			A		В			С		_			
NASA IOA	[3	/1R /1R]	[[P P] [P P]	[P P]	[]]	*
COMPARE	[/]	[(]	[]	[]	
RECOMMEN	DATI	ons:	(II	đi	ffe	erent	fr	om NA	SA)					
_	[.	/]	[,] []	[] (] ADA	/DE] LE	TE)
* CIL RE REMARKS:			RATION	VALE	:	(If ar	pl.	icabl			DEQUATE DEQUATE]	
MO DILLE	7/17/14	• •													

ASSESSMENT DATE: 1/29/88

ASSESS ASSESS NASA F	MEN MEN MEA	IT IT L #	Di I	ATE: D:	1, Al 0!	/29/ RCS- 5-6K	'88 -12 'A-	28: 20:	2X 36-	-2							ASA BASE	LIN	A: E [W []			
SUBSYS MDAC I ITEM:					1	RCS 2282 JDA2		L3,	/R3	MA:	נא	FC	OLD	DR	IV	ΈI	R SW	ITC	H 4			
LEAD A	NAI	ΔYS	T	:	D	. на	RT	MAI	N													
ASSESS	MEN	T:																				
	C			CAL LIGH		ľ		RI	EDU	NDA	NC	Y	sc	REE	NS	}			CII			
				V/FU				A				В				С			ITI	LIM		
NAS IO	A A	[3 3	/1R /3]		[P]		[P]		[P]		[]	*	
COMPAR	E	[/N]		[N)		[N]		[N]		[]		
RECOMM	END	ΑT	'IC	ons:		(If	d :	ifí	fer	ent	f	rc	m	NAS	A)							
	-	[3	/3]		[]	i	[]		[}	(2	[ADD/I) ELI	ETE))
* CIL	RET	EN	T]	ON I	RAT	ION.	ALI	Ξ:	(I	f ap	qç	li	ca	ble								
REMARK	s:													:			EQU <i>I</i> EQU <i>I</i>]		
NASA F EFFECT	MEA	С	ON	TAI	15	MUL	TI	PLE	E F.	AIL	JR	ES	•	TH	IS	F	'AILU	JRE	ALON	E H	IAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-122	283X		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12283 RJDA2B	L3/R3 MAN	IFOLD DR	IVER SWITCH	4
LEAD ANALYST:	D. HART	MAN			
ASSESSMENT:					
CRITICAL	ITY	REDUNDAL	ICY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1F IOA [3 /3] [P]	[P] []	[P] []	[] *
COMPARE [/N] [[N]	[и]	[и]	[]
RECOMMENDATIONS	: (If d	lifferent	from NA	SA)	
[3 /3] [[]	[]	[] (A)	[] .DD/DELETE)
* CIL RETENTION	RATIONAL	LE: (If a	pplicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA FMEA CONTA EFFECT.	INS MULT	IPLE FAII	ures. T	HIS FAILURE	ALONE HAS NO
AT MEETING WITH DISCUSSED. IT W				0/88, NSTS 2 SSUE (MULTII ONS OF NSTS	

THEREFORE, THIS ISSUE REMAINS OPEN.

WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206.

ASSESSM ASSESSM NASA FM	ENT	II):	AF	RCS-1	228	34X 336-	-1					SA DA ASELI	INE	[] X]	j i
SUBSYSTI MDAC ID ITEM:				12	RCS 284 DA2B	L3	/R3	MAN	IF	OLD	DRI	VER				-	
LEAD ANA	ALYS	T:		D.	HAR	ГМА	N										
ASSESSMI	ENT:	;															
		FI	CAL IGH'	r		R		NDAN	CY B	SC	REEN				CI IT		
NACA			•						_			С					
NASA IOA	[3	/1R]	[P]]	P P]	[P]]]	*
COMPARE	[/]	(]	[]	[]			[]	
RECOMMEN	DAT	IO	NS:		(If d	if	fer	ent i	fro	om 1	VASA)						
-	[,	/]	[]	[j	[]		(AD	[D/I] DELI	ETE
* CIL RE				ATI	[ONAL	E:	(Ii	f app	li	cab			QUATI QUATI	3	, - [[]	- ,
NO DIFFE	REN	CES	3.														

ASSESSME ASSESSME NASA FME	NT I	D:		L2285					ASA DATA BASELINE NEW	-]
SUBSYSTE MDAC ID: ITEM:			ARCS 12285 RJDA21	3 L3/	/R3 M	LANIF	OLD DI	RIVE:	R SWITCH	4	
LEAD ANA	LYST	?:	D. HAI	(AMTS	1						
ASSESSME	NT:										
	F	CICALI LIGHT		RI A	EDUNE	ANCY B	SCRE	ENS C		CIL	
*** ***		•			_			_	_	_	
NASA IOA	[3	/1R /1R]	[P]	[P]	[P]	[] *
COMPARE	[/]	[]	[]	[]	[1
RECOMMEN	DATI	ons:	(If	diff	feren	nt fro	om NAS	SA)			
_	[/]	ſ]	[]	[] (A)	[DD/D] ELETE)
* CIL RE	TENT	'ION F	RATION	ALE:	(If	appli	icable	A	DEQUATE DEQUATE	[]

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA BASELINE NEW	-
	ARCS 12286 RJDA2A L4/F	R4 MANIFOLD I	OGIC SWITCH	5
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICAL: FLIGH HDW/FU	T	DUNDANCY SCRE B	eens C	CIL ITEM
NASA [3 /1R IOA [3 /1R] [P]	[F] [P]	[P] [P]	[X] *
COMPARE [/] []] [N]	[]	[N]
RECOMMENDATIONS:	(If diffe	erent from NA	ASA)	
· 1] []] []	[] (A)	[DD/DELETE
* CIL RETENTION :	RATIONALE:	(If applicab)	le) ADEQUATE INADEQUATE	

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT	ID	:	ARCS	5-1228				N	ASA BASE		[]	
SUBSYSTE MDAC ID: ITEM:	M:			ARCS 1228 RJD		/R4	MANIF	OLD	LOGIC	: SWI	TCH :	5		
LEAD ANA	LYS	ST:		D. 1	HARTMA	N								
ASSESSME	NT:	}												
	CR]			ITY	R	EDUN	IDANCY	SCR	EENS			CII	_	
	ŀ		IGH /FU		A		В	3	C	2				
NASA IOA]	3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/]	[]	C]	[]		[]	
RECOMMEN	DA?	rio	NS:	(If dif	fere	ent fr	om N	(ASA)					
	[/]	ι]	[]	[]	(A	[DD/I) DELE	TE)
* CIL RE	TE	ITN	ÓN	RATI	ONALE:	(II	f appl	licab	1	ADEQU ADEQU]]	
REMARKS:														

NO DIFFERENCES.

ASSESSME ASSESSME NASA FME	ENT I	ID:	ARCS	-122	88X 035 - 2	2			NASA DAT BASELIN NI) x]	
SUBSYSTE MDAC ID:			ARCS 1228 RJD	38	4/R4	MANI	FOLD	LOG]	C SWITCH	ī 5		
LEAD ANA	LYSI	r:	D. F	IARTM	AN							
ASSESSME	ENT:											
		'ICAI 'LIGH	LITY	1	REDUN	IDANC!	SCR	EENS	3	CI		
			INC	2	A	I	3		С	IT	EM	
NASA IOA	[3 [3	3 /3]	[]	[[]	[]	[] *	k
COMPARE	[/]	[]	[]	[]	[]	
RECOMMEN	DATI	ONS:	(I	f dif	fere	nt fr	om N	ASA)				
_	[/	1	[]	[]	[] ([ADD/I] DELET	ΓE)
* CIL RE	TENT	MOI	RATIO	NALE:	(If	appl	.icab		ADEQUATE ADEQUATE	-]	
REMARKS: NO DIFFE	RENC	ES.							DIZORIE	L	J	

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	1/29/88 ARCS-1: 05-6KA	2289					ASA DATA: BASELINE NEW	: []
SUBSYSTEM: MDAC ID: ITEM:		ARCS 12289 RJDA2A	L4/	R4 MA	NIFO	LD LO	GIC	SWITCH	5	
LEAD ANALYS	T:	D. HAR	TMAN							
ASSESSMENT:										
CRI	TICAL		RE	DUNDA	NCA	SCREE	NS		CIL ITEM	ſ
H	FLIGH HDW/FU		A		В		С			
NASA [IOA [3 /3 3 /1R]	[[P]	[[P]	[[P]]] *]
COMPARE [/N]	[N	1	[N]	[N	[]	[]
RECOMMENDA!	rions:	(If	dif	feren	t fr	om NAS	A)			
_ [/]	[]	[]	[] (2	[ADD/D] ELETE)
* CIL RETE	NTION	RATION	ALE:	(If	appl	icable	-	ADEQUATE ADEQUATE	[]
REMARKS: NO DIFFERE	NCES.									

ASSESSME ASSESSME NASA FME	INT	'I	D:	A.	/29/8 RCS-1 5-6KA	.22											DAT ELII NI] []	
SUBSYSTE MDAC ID:				1:	RCS 2290 JDA2A	L	4,	/R4	MA	LN]	[F	OL	D L	og	IC	SW:				•	
LEAD ANA	LY:	ST	:	D.	. HAR	TM	A.	N													
ASSESSME	NT:	:																			
		F.I	LIGH	T	Z]	RI	EDUN	IDA	NC	Y:	so	CREE	ENS	S				IL		
	F	IDW	V/FU	NC		i	A				В				С			1	TE:	M	
NASA IOA]	3	/1R /1R]		[]	9]		[F P]]	P P]]	X]	*
COMPARE	[/]	i	Ι]		[N]		[]		[N]	
RECOMMENI	DAT	!IO	NS:		(If d	lif	f	ere	nt	f	ro	m	NAS.	A)							
-	[/]	ĺ	•]	ı	[]		[]	(2	[ADD/	'DE		TE)
* CIL RET	EN	TI	ON I	RAT	IONAI	Æ:		(If	aŗ	op.	li	ca	ble		• •	50		_			
REMARKS: IOA AGREE	is '	WI'	TH N	IAS	A FME	A.							:	IN	AD	EQU.	ATE ATE	[]	

ASSESSMEN ASSESSMEN NASA FMEA	T	ID		AR	29/8 CS-1 -6KA	22									ASA D BASEI	LINE]	
SUBSYSTEM MDAC ID:	[:			AR 12 RJ	201	I	4/	R4	MA	NI	FO	LD	DRI	VE	R SW	ГТСН	6		
LEAD ANAI	.YS	T:		D.	HAR	TM	IAN	Ī											
ASSESSMEN	T:																		
C	RI		CAL				RI	DU	NDA	NC	Y:	SC	REEN	S			CIL		
	F		JIGH I/FU				A				В			(2				
NASA IOA	[3	/1R /1R]]	P P]		[P P]	((P] P]		[]	*
COMPARE	[/	1		[]		ι]	I]		[]	
RECOMMEN	DA:	ric	ons:		(If	đ	if	fer	ent	t i	fro	om	NASZ	A)					
	[/]		[]		[]		[]	(A	[DD/I		ETE)
* CIL RE	TE	NT:	ION	RA:	rion	AL	E:	(1	f	àp	pΊ	ica			ADEQU ADEQU]	
REMARKS:	RE	NC	ES.																

ASSESSME ASSESSME NASA FME	NT I	D:	ARCS-	122	292 203	X 6-2					ASA DA BASELI		[]	
SUBSYSTE MDAC ID: ITEM:			ARCS 12292 RJDA2		4/	R4 MA	NIF	OLD	DRI	VER	SWIT	гсн	6		
LEAD ANA	LYST	:	D. HA	RTM	IAN										
ASSESSME	NT:														
	F	ICALI LIGHT			REI A	DUNDA	NCY B		REEN	s c			CIL ITEN	ſ	
NASA IOA		/1R /3]	[P]	[P]	[P]		[[] *]	
COMPARE	[/N]	[N]		N)	[N]		[]	
RECOMMEN	DATIC	NS:	(If	di:	ff∈	erent	fr	om N	IASA))					
-	[3	/3]	[]	(]	[•		(D/DE] LETE)
* CIL RET	ENTI	ON R	ATIONA	LE	: (If ap	pl:	icab			QUAT QUAT		[[]	
NASA FMEA EFFECT.	CON	TAIN	s Mult	'IPI	Œ	FAILU	RES		THIS	FA	ILURI	E A	LONE	HAS	NO

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12293X NASA FMEA #: 05-6KA-2036-2 SUBSYSTEM: ARCS MDAC ID: 12293														3		SA DATA: ASELINE NEW]		
SUBSYSTE MDAC ID:					~ ~ ~	L	4/	R4	MAN	ΙI	FO	LD	DR:	ΙV	ER	SWITCH	6			
LEAD ANA	LYS	ST:		D.	HAR	TM	IAN	Ī												
ASSESSME	NT:	:																		
CRITICALITY REDUNDANCY SCREENS FLIGHT													CIL							
FLIGHT HDW/FUNC A B C																				
	· · · · · · · · · · · · · · · · · ·]	[]	*				
COMPARE	[/N]		[N]		[N]		[N]	[].		
RECOMME	NDA'	TIC	ons:		(If	đ	if	fe	rent	. :	fr	om	NAS	A))					
	[3	/3]		[]		[]		[] (A	[.DD/[) EL	ETE))
* CIL R	ETE	NT:	ION	RA:	rion.	AL	E:	(If a	p	pl	ica	able			DEQUATE DEQUATE	[]		
REMARKS NASA FM EFFECT.	: EA	CO	NTA]	ns	MUL	TI	PL	Æ	FAII	טב	RE	s.	TI	ΗI	s	FAILURE	ALOI	1E	HAS	NO
																		c M	17.0	

AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88, NSTS 22206 WAS DISCUSSED. IT WAS AGREED UPON THAT THE ISSUE (MULTIPLE FAILURES) WAS RAISED DUE TO DIFFERENT INTERPRETATIONS OF NSTS 22206. THEREFORE, THIS ISSUE REMAINS OPEN.

ASSESSM	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12: NASA FMEA #: 05-6KA-: SUBSYSTEM: ARCS												SA DA ASELI N		x :]
SUBSYST MDAC ID ITEM:				12	2294	L4	/R4	MAN	IF	OLD	DRI	VER	SWIT	Ī		I
LEAD AN	ALY	ST	:	D.	HAR!	rma	N									
ASSESSMI	ENT	:														
		F	ICAL LIGH	T	•	R	EDUI	NDAN	CY	SCI	REEN	s		CI IT	L EM	
	i	HD	W/FU	NC		A			В			C			1111	
NASA IOA	[3 3	/1R /1R]	[[P]]	P P]	[P :] 	[]	*
COMPARE	[/]	C]	[]	ſ]	·	[]	
RECOMMEN	DAI	PIC	ons:		(If d	if	fere	nt i	iro	om N	'ASA)					
_	[/]	[]	[]	[]		[ADD/1] DELE	ETE
* CIL RE	TEN	ΤI	ON R	(TA	CONAL	E:	(If	app	li	.cab			QUATE QUATE	[]	ĺ
NO DIFFE	REN	CE	s.											-	•	

ASSESSMEN	SSESSMENT DATE: 1/29/88 SSESSMENT ID: ARCS-122953 ASA FMEA #: 05-6KA-2036											ASA DAT BASELIN NE	E) ()	
SUBSYSTEM MDAC ID: ITEM:			ARCS 12295 RJDA2	A I	:4 <i>/</i>	'R4 M	AN I	FC	OLD I	ORIV	/EI	R SWITC	Н	6		
LEAD ANAI	LYST	:	D. HA	RTN	(A)	1										
ASSESSMEN	T:															
C		ICAL: LIGH	ITY P	EDUND	ANC	CY	SCRE	EENS	3			CII ITI				
	HD	W/FUI	NC		A			В			С					
NASA IOA	[3 [3	/1R /1R]	[P P]	[P P]	[P P]		[]	*
COMPARE	[/]	[]	[]	[[]	
RECOMMEND	ATI	ons:	(If	đ	Ĺfí	feren	it f	rc	om NA	ASA))					
	[/]	[]	[]	[] (A D	[D/I) DEL	ETE)
* CIL RET			RATION	ALI	E:	(If	app) 1:	icab]	•		DEQUATE DEQUATE		[]	
NO DIFFER	RENC	ES.														

	1/29/88 ARCS-12296X 05-6KA-2037-1		DATA: ELINE [] NEW [X]
	ARCS 12296 MANIFOLD 1, JE	ETS HEATER CONTRO	L SWITCH 9
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL: FLIGHT HDW/FUI	r	DANCY SCREENS B C	CIL ITEM
NASA [2 /2 IOA [3 /2R] []]]	[] [] [P]	[X] *
COMPARE [N /N] [N]	[N] [N]	[N]
RECOMMENDATIONS:	(If differen	nt from NASA)	
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* CIL RETENTION I	RATIONALE: (If		UATE [] UATE []

IOA AGREES WITH NASA FMEA.

ASSESSME ASSESSME NASA FME	NT :	ID:	ARCS	9/88 5-12297 5KA-203					DATA: LINE NEW	[
SUBSYSTE MDAC ID:			ARCS 1229 MAN		L, J	ETS H	EATE	R CON	TROL	SWI	гсн	9	
LEAD ANA	LYS'	T:	D. I	iartmai	1								
ASSESSME	NT:												
		TICAL		R	DANCY	SCR	EENS			CII			
		FLIGH DW/FU		A	В	3	C	2					
NASA IOA	[3 /3 3 /3]	[]]]]]		[]	*
COMPARE	[/]	Ţ]	[1	[]		[]	
RECOMMEN	DAT	ions:	(If dif	fere	ent fr	om N	ASA)					
	[/]	[[]	ί]	(A	[DD/I) DELE	TE)	
* CIL RE			RATI	ONALE:	appl	icab	2	-	JATE JATE	[]		
NO DIFFE	EREN	ICES.											

ASSESSME	ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12298X NASA FMEA #: 05-6KA-2037																DA ELI N		[x]	
SUBSYSTE MDAC ID:				12	RCS 298 NIF	OL	D.	1,	JEI	rs	н	EAT	rer (C	ON:	ľRO	L S	rıw	.'C	н :	9	
LEAD ANA	LYS	5T	:	D.	HA	RT	MA	N														
ASSESSME	NT:	:																				
		F	ICAL LIGH	r	•		RI A	EDU	INDA	N	CY B	sc	CREEI	NS	s C					IL Per	M	
NASA IOA	[2	/2 /2R]		[P]		[P]	ļ	[[P]]	x]	*
COMPARE	[N	/N]		[N]		[N]	i	[N]			[N]	
RECOMMEN	DAT	'IC	ons:		(If	d:	ifi	fer	ent	f	rc	m	NAS <i>I</i>	A)								
_	[/]		[]		[]	ĺ	[]	((AD	[D/	'DE] ELE	ETE)
* CIL RE REMARKS: IOA AGRE								(I	f a	pp	ol i	.ca	·				JATE JATE		[]	
		***	1																			

ASSESSMEI ASSESSMEI NASA FME	I TV	D:	ARCS	/88 -12299 KA-203				ASA I BASEI		[]		
SUBSYSTEM MDAC ID:	M:		ARCS 1229 MANI		L, J	ETS H	EATE!	R CON	TROL	swin	гсн	9	
LEAD ANA	LYSI	?:	D. E	[ARTMA]	1								
ASSESSME	NT:												
		TICAL TLIGH		RI	EDUN	DANCY	SCR	EENS			CIL		
	_	W/FU		A	E		C						
NASA IOA	[3	3 /3]	[[]	[]]	[]		[] ;	k
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	DAT:	ions:	: (:	If dif	fere	nt fr	om N	ASA)					
	[/]	[3	[]	[]	(A	[DD/I) DELE	TE)
* CIL RE		TION	RATI	ONALE:	(If	app]	Licab		ADEQU ADEQU		[]	
NO DIFFI		CES.											

_	ENT DATE: ENT ID: EA #:	ARCS-12	300X			NASA DASEL	INE [; ;
SUBSYSTE MDAC ID:		ARCS 12300 MANIFOL	D 1,	JETS HE	ATER C	ONTROL S	SWITCH	9
LEAD ANA	LYST:	D. HART	MAN					
ASSESSME	NT:							
	CRITICALI FLIGHT HDW/FUN	<u>ר</u>	REDUI	NDANCY B	SCREEN	s c	CII	_
w.a.	·			В		C		
NASA IOA	/ -] [P]	[[P] [P]	[X]	:] *
COMPARE	[N /N] [N]	[N) [и ј	[N]
RECOMMEN	DATIONS:	(If di	ffere	ent from	n NASA))		
_	[/] [. 1	[]] [3	[(ADD/D	
* CIL RE	TENTION R	ATIONALE	: (If	applic	cable)	ADEQUAT]
REMARKS: IOA AGREI	ES WITH N	ASA FMEA	. •		IN	IADEQUAT		j

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-1230		BASELIN NE		
	ARCS 12301 MANIFOLD	2, JE	TS HEATEI	R CONTROL SW	ITCH 10
LEAD ANALYST:	D. HARTMA	N			
ASSESSMENT:					
CRITICAL		EDUND	ANCY SCRI	EENS	CIL ITEM
FLIGH HDW/FU			В	С	
NASA [2 /2 IOA [3 /2F] [P]	[] [P]	[] [P]	[X] * []
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If dif	feren	t from N	ASA)	
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* CIL RETENTION	RATIONALE:	(If	applicab	le) ADEQUATE INADEQUATE	
REMARKS: IOA AGREES WITH	NASA FMEA.				

ASSESSME ASSESSME NASA FME	I	D:	ARC	S-1230	2X 37-	2			NASA D BASEL]	
SUBSYSTE MDAC ID:				ARC 123 MAN	02	2,	JETS H	EAT	ER CO	ONTROL	SWIT	CH 1	0
LEAD ANA	LY	ST	:	D.	HARTMA	N							
ASSESSME	TN	:											
	CR				R	EDU	NDANCY	SC	REENS	S	-	CIL	
	1		LIGH W/FU	IT INC	A		B	;		С]	TEM	
NASA IOA	[3	/3 /3]]]	[[]	[]	[] *
COMPARE	(/]	[]	[]	ſ]	[)
RECOMMEN	'DA'	ric	ONS:	(If dif	fer	ent fr	om l	NASA)				
	[/]	[]	ĵ.]	[]] (ADE	D/DE:] LETE
* CIL RE REMARKS: NO DIFFE				RATI	ONALE:	(I:	f appl	ical		ADEQUA']

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-123 05-6KA-2			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12303 MANIFOLD	2, JET	TS HEATER	CONTROL SWIT	rch 10
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICA		REDUNDA	ANCY SCREE	ns	CIL ITEM
FLIG HDW/F		A	В	С	
NASA [2 /2 IOA [3 /2] [P]	[p]	[] [P]	[X] *
COMPARE [N /N] [и]	[N]	[и]	[N]
RECOMMENDATIONS	: (If di	fferen	t from NAS	SA)	
[/] [] .	[]	[] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA AGREES WITH	NASA FME	Α.			

ASSESSMI ASSESSMI NASA FMI	ID:	ARC	S-123	04X 037-:	2			NASA DA BASELI N		x]	
SUBSYSTE MDAC ID:			ARC 123 MAN	04	2, 3	JETS 1	НЕАТІ	ER CO	NTROL S	WITCH	10
LEAD ANA	ALYST	r:	D.	HARTM	AN						
ASSESSME	ENT:										
		rica: FLIG	LITY IT	I	REDUM	IDANC	C SCF	REENS		CI	
				7	1	F	3	•	С	IT.	EM
NASA IOA	HDW/FUNC ASA [3 /3] IOA [3 /3]]	[[]	[]	[] *
COMPARE	[/	1	[]	[]	[]	ſ]
RECOMMEN	DATI	ONS:	(:	If dif	fere	nt fr	om N	ASA)			
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* CIL RE	TENT	ION	RATIO	ONALE:	(If	appl	icab	A	DEQUATE		1
REMARKS:	RENC	ES.							DEQUATE		j

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12305 05-6KA-203	X 7-1	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12305 MANIFOLD 2	, JETS HEATER	CONTROL SWIT	СН 10				
LEAD ANALYST:	D. HARTMAN	ī						
ASSESSMENT:								
CRITICAL		EDUNDANCY SCREE	ns	CIL ITEM				
FLIGH HDW/FU		В	С					
NASA [2 /2 IOA [3 /2F] [P] [p]	[] [P]	[X] *				
COMPARE [N /N] [N] [N]	[N]	[N]				
RECOMMENDATIONS	: (If dif	ferent from NAS	SA)					
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* CIL RETENTION	RATIONALE:	(If applicable	e) ADEQUATE INADEQUATE	[]				
REMARKS: IOA AGREES WITH	NASA FMEA.							

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	ARCS-123	06X 037-1	L		NASA BASE	DATA: LINE (NEW (
SUBSYSTEM: MDAC ID: ITEM:	:	ARCS 12306 MANIFOLD	3, J	ETS	HEATE:	R CONTROL	SWITC	H 11	
LEAD ANALYS	r: r	. HARTMA	N						
ASSESSMENT:									
1	FICALII FLIGHT		EDUN	DANC	Y SCRI	EENS		IL	
HI	OW/FUNC	A	•	1	В	С	1	TEM	
NASA [2 IOA [3	2 /2] 3 /2R]	[[P]	[])	[] [P]	[x] *	
COMPARE [N	ן א/ז	[N	J	[]	i]	[N]	(n j	
RECOMMENDATI	ONS:	(If dif	fere	nt fr	om NA	SA)			
- (/]	[J	[]	[]	[(ADD)] /DELETE)
* CIL RETENT	ION RA	rionale:	(If	appl	icabl	e)		r	
REMARKS: IOA AGREES W						ADEQUAT]	

ASSESSME ASSESSME NASA FME	NT II		ARCS	/29/88 NASA DATA. RCS-12307X BASELINE [] 5-6KA-2037-2 NEW [X]								
SUBSYSTE MDAC ID:			ARCS 1230 MANI	7 FOLD	3, J	ETS H	EATE	R CON	TROL SW	тсн	11	
LEAD ANA	LYST	:	D. H	ARTMA	N							
ASSESSME	:TM											
	CRIT			R	EDUN	DANCY	SCR	EENS		CII		
		LIGH W/FU		A		E	3	(2			
NASA IOA	[3	/3 /3]]]	[]	[[]	ָנ טִ] *]	
COMPARE	[/]	[]	ĺ]	[1	[}	
RECOMMEN	ITADI	ONS:	: (I	f dif	fere	ent fi	com N	ASA)				
	ί	/]	[}	[3	[] ([ADD/] DELETE	:)
* CIL RI		ION	RATIO	NALE:	: (I)	f app	licab		ADEQUATE ADEQUATE	_]	
NO DIFF		ES										

ASSESSM	ENT DATE: ENT ID: EA #:		X80	L	NASA DA BASELI N	
SUBSYSTI MDAC ID ITEM:		ARCS 12308 MANIFOLD	3, J	ETS HEATE	ER CONTROL S	WITCH 11
LEAD AND	ALYST:	D. HARTM	AN			
ASSESSMI	ENT:					
	CRITICAL FLIGH HDW/FU		REDUN A	DANCY SCE	REENS C	CIL ITEM
NASA IOA	[2 /2 [3 /2R] [:] P]	[] [P]	[] [P]	[X] *
COMPARE	[N /N] [1	4]	[N]	[N]	[N]
RECOMMEN	DATIONS:	(If di	ffere	nt from N	ASA)	
-	[/] [)	[]	[]	[] (ADD/DELETE)
REMARKS:		RATIONALE: NASA FMEA.		applicab	le) ADEQUATI INADEQUATI	

ASSESSME ASSESSME NASA FME	NT I	D:	1/29/ ARCS- 05-6K	12309				_		DATA: LINE [] NEW [X]						
SUBSYSTE MDAC ID: ITEM:			ARCS 12309 MANIF	OLD 3	3, JI	ETS H	EATER	CON	TROL S	WITCH	11					
LEAD ANA	LYSI	T:	D. HA	RTMAI	1											
ASSESSME	NT:															
		CICAL		RI	EDUN	DANCY	SCRE	ENS		CI	L EM					
		W/FU		В		C	:									
NASA IOA	[3	3 /3]	[]	[[]	[[]	[[] *]					
COMPARE	[/)	[]	C	1	[]	C]					
RECOMMEN	IDAT:	cons:	(If	dif	fere	nt fr	om NA	SA)								
	[/]	[]	[]	[]	[(ADD/] 'DELETE)					
* CIL RI	ETEN:	rion	RATION	ALE:	(If	appl	icabl	7	ADEQUAT ADEQUAT]					
REMARKS	:															

NO DIFFERENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12310X	BASE	DATA: ELINE [] NEW [X]
	ARCS 12310 MANIFOLD 3, JE	TS HEATER CONTROI	SWITCH 11
LEAD ANALYST:	D. HARTMAN		
ASSESSMENT:			
CRITICAL FLIGH HDW/FU	T	B C	CIL ITEM
NASA [2 /2 IOA [3 /2R] []]]	[] [] [P]	[X] *
COMPARE [N /N] [N]	[N] [N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)	
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* CIL RETENTION I REMARKS: IOA AGREES WITH I		applicable) ADEQU INADEQU	

ASSESSMEI ASSESSMEI NASA FME	T	ID	TE:	AR	29/8 CS-1 -6KA								1			DAT ELIN NE	E [[x]						
SUBSYSTEM MDAC ID:	M:			AR 12 MA	CS 311 NIFO	LC) 4	بر	JETS	5	HE	ATI	ER C	:O	ΝT	RO]	L SW	ITC	:H	: 1	.2			
LEAD ANA	LYS	ST:		D.	HAR	MT.	IAN	ſ																
ASSESSME	NT:	:																						
	CR:		CAL		•		RI	DU	NDAI	NC	Y	SC	REEN	īS				7		L EN	1			
	. 1		JIGH V/FUI				A				В				С									
NASA IOA	[2	/2 /2R]		[P]		[[P]	[:	P]			[X]	*		
COMPARE	[N	/N]	•	[N]		[N	3	ĺ		N]			[N]			
RECOMMEN	IDA ⁱ	TI	ons:		(If	d :	if:	fer	ent	1	r	om	NAS	A)										
	[/]		[]		[]	-	[]				/D		ETE)		
* CIL RE	ETE	ΝT	ION	RA!	rion	ΑL	E:	()	[fa	Įq.	,1 :	ica					TAU!] []			
REMARKS:	: EES	W	ITH	NA	SA F	ME	A.																	

ASSESSM	SSESSMENT DATE: 1/29/88 SSESSMENT ID: ARCS-12312X ASA FMEA #: 05-6KA-2037							NASA DATA: X BASELINE [] 7-2 NEW [X]							
SUBSYSTI MDAC ID ITEM:			ARC 123 MAN	12	4, 3	JETS I	I EATI	ER CO	ONTROL S	WITCH	12				
LEAD AND	ALYS!	r:	D. 3	HARTM	AN										
ASSESSMI	ENT:														
		rica: Fligh	LITY	I	REDUI	NDANCY	SCF	REENS	5	CI					
		OW/F		A B			3		С	ITEM					
NASA IOA	[3	3 /3]	ĵ []	[]	[]	[] *]				
COMPARE	[/]	[]	[]	[]	[]				
RECOMMEN	IDAT1	ONS:	(1	f dif	fere	ent fr	om N	ASA)							
-	[/]	(]	[]	[]	[[A DD/1] DELETI	€ ;			
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NO DIFFE		ES.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12313 05-6KA-203		NASA DATA: BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12313 MANIFOLD 4	, JETS	HEATER C	CONTROL SWIT	TCH 12		
LEAD ANALYST:	D. HARTMAN	1					
ASSESSMENT:							
CRITICAI FLIGH		EDUNDANC	Y SCREEN	IS	CIL ITEM		
HDW/FU			В	С			
NASA [2 /2 IOA [3 /2F] [R] [P] [] [P]	[] [P]	[X] *		
COMPARE [N /N] [N] [n]	[и]	[N]		
RECOMMENDATIONS	: (If dif	ferent 1	from NAS	A)			
[/] [] []	[] (A	[] DD/DELETE)		
* CIL RETENTION	RATIONALE:	(If ap)) ADEQUATE INADEQUATE	[]		
REMARKS: IOA AGREES WITH	NASA FMEA.						

ASSESSM	SESSMENT DATE: 1/29/88 SESSMENT ID: ARCS-123 SA FMEA #: 05-6KA-2									NASA BASI	ELIN] X]	
SUBSYST				ARC 123 MAN	_	4,	JETS	HEAT	ER CO	ONTROI	L SWI	ГТСН	12	
LEAD AN	ALY	ST	:	D.	HARTMA	N								
ASSESSMI	ENT	:												
	CR	IT:	ICAI LIGI	LITY	R	EDU	JNDANC	ey sci	REENS	3		CI	_	
	1			JNC	A			В		С	ITEM			
NASA IOA	[3	/3 /3]]]	נ נ]] []		[]	*
COMPARE	[/]	[]	[]	[]		[]	
RECOMMEN	IDA'	ric	ons:	(If dif	fer	ent f	rom N	IASA)					
_	[/]	[]	[]	[]	(A	[DD/[] DELE	TE)
* CIL RE	TEN	TI	ON	RATI	ONALE:	(I	f app	licab						
REMARKS:	REN	ICE	s.							ADEQU. ADEQU.		[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12315	/29/88 NASA DATA RCS-12315X BASELINI 5-6KA-2037-1 NEV									
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12315 MANIFOLD 4	, JETS HEATER	CONTROL SWI	TCH 12							
LEAD ANALYST:	D. HARTMAN	ĭ									
ASSESSMENT:											
CRITICAL		EDUNDANCY SCRE	EENS	CIL ITEM							
FLIGH HDW/FU		В	С								
NASA [2 /2 IOA [3 /2]] [R] [P] []] [P]	[] [P]	[X] * []							
COMPARE [N /N] [N] [N]	[N]	[N]							
RECOMMENDATIONS	: (If dif	ferent from N	ASA)								
[/] [] []	[]	[] ADD/DELETE)							
* CIL RETENTION	RATIONALE:	(If applicab	le) ADEQUATE INADEQUATE								
REMARKS: IOA AGREES WITH	NASA FMEA.	•									

ASSESSM ASSESSM NASA FM	MENT DATE: 1/29/88 MENT ID: ARCS-12316X MEA #: 05-6KA-2042-1									NASA BASE		E [
SUBSYST MDAC ID ITEM:	:				16 IFOLD		JETS :	HEAT	ER CO	NTROL	SW]	.TC	H.	13	
LEAD AND	ALY	ST	:	D.	HARTM	AN									
ASSESSMI	ENT	:													
	CR		ICA: LIG	LITY HT	1	REDU	NDANC	SCI	REENS				IL		
	1			UNC	j	A	F	3	(C	ITEM				
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COMPARE	[/]	ſ]	ι]	C]		[]	
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REMARKS:									A	DEQUA DEQUA	TE TE	[]	

ASSESSMEI ASSESSMEI NASA FME	NT II		ARCS	/88 -12317 KA-204			N	BASELIN	1E	[[x]		
SUBSYSTEMDAC ID:	M:		ARCS 1231 MANI	7	i, Ji	ETS H	EATE	R COM	TROL S	WIT	СН	13	
LEAD ANA	LYST	:	D. F	IARTMAN	ſ								
ASSESSME	NT:												
	CRIT			RI	EDUN	DANCY	SCR	EENS			CIL		
	_	FLIGHT HDW/FUNC A B C											
NASA IOA	[3 [3	/3 /3]	[]	[]	[]		[]	*
COMPARE	[/	3	ſ]	[]	[]		[]	
RECOMMEN	IDATI	ONS:	: (If dif	fere	nt fr	om N	ASA)					
	[/]	C]	[]	(]	(A)	[]\dc) DELE	TE)
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REMARKS:		CES.											

ASSESSMENT DATE: 1/29/88 ASSESSMENT ID: ARCS-12318X NASA FMEA #: 05-6KA-2042-1								NASA DATA: BASELINE [] NEW [X]							
SUBSYST MDAC ID ITEM:				ARC 123 MAN	18) 5,	JETS	HEAT)	ER CO	NTROL S	-		-		
LEAD AN	ALY	ST	:	D.	HARTM	AN									
ASSESSM	ENT	:				•									
	CR:			LITY HT		REDUI	NDANC	Y SCI	REENS			ΙL	_		
	I			UNC		A	1	В	(C	ITEM				
NASA IOA]	2 2	/2 /2]	[]]]	[]	[X X]	*	
COMPARE	[/]	[]	[]	[]	[]		
RECOMMEN	ID A I	ľIC	NS:	: ()	f di	ffere	ent fi	com N	ASA)						
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* CIL RE	TEN	TI	ON	RATIC	NALE:	(If	appl	icab.	A	DEQUATE]		
NO DIFFE	REN	CE	s.								-		•		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-1231	BASELINE []								
	ARCS 12319 MANIFOLD	5, JE1	rs heati	ER CON	rol swi	тсн	13			
LEAD ANALYST:	D. HARTMA	N								
ASSESSMENT:										
CRITICA FLIG	LITY R	EDUNDA	ANCY SCI	REENS		CIL				
	UNC A		В	С						
NASA [3 /3 IOA [3 /3] []	[]	[]	[] *			
COMPARE [/] []	[.]	[[]			
RECOMMENDATIONS	: (If dif	ferent	from 1	NASA)						
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* CIL RETENTION REMARKS: NO DIFFERENCES.	RATIONALE:	(If a	applical	A	DEQUATE DEQUATE	[]			

ASSESSME	ESSMENT DATE: 1/29/88 ESSMENT ID: ARCS-12320X A FMEA #: 05-6KA-2042-1									CA: IE [EW []	
SUBSYSTE MDAC ID:			ARCS 1232 MANI	_	5, J	ETS H	EATE:	R CO	ONTROL SW	IITC	H J	L3	
LEAD ANA	LYSI	r:	D. H	ARTMA	N								
ASSESSME	NT:												
		rical Fligh	ITY T	R	EDUN	DANCY	SCR	EENS	6		IL TEM	4	
	HI	W/FU	NC	A		В			С			-	
NASA IOA	[2	2 /2]	[]	[]	[]	[X X]	*
COMPARE	[/]	[.]	[]	[]	[]	
RECOMMEN	DATI	ons:	(I	f dif	fere	nt fr	om N	ASA)					
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* CIL RE REMARKS:			RATIO	VALE:	(If	appl	icab:	•	ADEQUATE IADEQUATE]	

ASSESSMENT ASSESSMENT NASA FMEA	r ID		ARCS	-123	21X 303-1				ASA DA'I BASELIN NE				
SUBSYSTEM: MDAC ID: ITEM:	;		ARCS 1232 SIGN	1	ONDIT	ONER	OL1						
LEAD ANALY	YST:	:	D. H	ARTM	AN								
ASSESSMEN'	r:												
CI	F	CAL LIGH	r		REDUN			ENS C			CIL ITE		
	HDV	/FU	NC		A	В		C					
NASA IOA	[2 [3	/1R /1R]]	P] P]	[P]	[P]		[X] ,	k
COMPARE	[N	/	1	[1	[]	[1		[N]	
RECOMMEND	ATI(ons:	(1	f di	ffere	nt fr	om NA	SA)					
_	[/	1	[]	[]	[]	(AD	[D/D] ELE	TE)
* CIL RET	ENT	ION	RATI(ONALE	E: (If	appl	icabl	F	ADEQUAT ADEQUAT		[]	
DEMADES.													

NO DIFFERENCES.

	: 1/29/88 ARCS-123: 05-6KA-2:		NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12322 SIGNAL CO	ONDIT	IONER	OL2						
LEAD ANALYST:	D. HARTM	AN								
ASSESSMENT:										
CRITICA FLIG	-	REDUNI	DANCY	SCRE	ENS			IL Per		
HDW/F	JNC A	\	В		С				•	
NASA [2 /1] IOA [3 /1]	R] [F	?] ?]	[P [P]	[P]	[X]	*
COMPARE [N /] []	[]	£]	[N]	
RECOMMENDATIONS	(If dif	ferer	nt fro	om NA	SA)					
- (/] []	[]	[[.DD/	'DF] ELF	ETE)
* CIL RETENTION	RATIONALE:	(If	appli	cable	AD	EQUATE	[]]	
REMARKS: NO DIFFERENCES.					INAD	EQUATE	[]	

	1/29/88 NASA DATA: ARCS-12323X BASELINE [] 05-6KA-2303-1 NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12323 SIGNAL	CONDITI	ONER OR1						
LEAD ANALYST:	D. HART	MAN							
ASSESSMENT:									
CRITICA FLIG		REDUND	ANCY SCF	REENS	CIL ITEM				
HDW/FU		A	В	С					
NASA [2 /11 IOA [3 /11	R] [P] P]	[P] [P]	[P] [P]	[X] * []				
COMPARE [N /) []	[]	[]	[N]				
RECOMMENDATIONS	: (If d	ifferer	nt from M	NASA)					
[/] [3	[]	[]	[] (ADD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If	applical	ole) ADEQUAT INADEQUAT					
REMARKS: NO DIFFERENCES.									

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 1/29/88 ARCS-123: 05-6KA-2:			NASA DAT. BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12324 SIGNAL CO	ONDITION	IER OR2		
LEAD ANALYST:	D. HARTM	AN			
ASSESSMENT:					
CRITICA FLIG HDW/F	HT	REDUNDAN A	ICY SCRE	ENS C	CIL ITEM
NASA [2 /1 IOA [3 /1	R] []	P] [P] P]	[P] [P]	[X] *
COMPARE [N /] [] []	[]	[N]
RECOMMENDATIONS	: (If di	fferent	from NA	SA)	
- [/] [] []	[] (2	[] ADD/DELETE
* CIL RETENTION REMARKS:	RATIONALE:	: (If ap	plicabl	e) ADEQUATE INADEQUATE	

NO DIFFERENCES.

ASSESSMEN ASSESSMEN NASA FMEA	II TI		1/29/8 ARCS-1 NONE	8 2325	x	N	ASA D BASEL	INE	[]		
SUBSYSTEM MDAC ID: ITEM:	1:		ARCS 12325 JET DR	IVER	(PRI	MARY	-ALL)					
LEAD ANA	LYST	:	D. HAR	TMAN								
ASSESSME	T:											
•	CRIT			RE	DUNDA	NCY	SCREE	NS			CIL	1
		LIGH' W/FU		A		В		(2			
NASA IOA	[/]	[]	[]	[]		[] *
COMPARE	[/]	[]	[1	[]		[]
RECOMMEN	DATI	ons:	(If	difi	ferent	t fro	om NAS	SA)				
	[/	1	[1	[]	[1	(A	[DD/D:] ELETE)
* CIL RE	TENT	ON	RATION	ALE:	(If a	app1	icable		ADEQU ADEQU		[]
REMARKS: THIS FAI	LURE	COV	ERED B	Y A (GN&C	FMEA	•					

SUBSYSTEM MANAGER STATED THAT THE RJDS WERE PART OF THE GN&C ANALYSIS. IOA RECOMMENDS A REFERENCE TO THE GN&C FMEAS BE MADE

C-2879

IN THE RCS EPD&C FMEAS.

ASSESSM ASSESSM NASA FM	ENT	ID:	, –	9/88 S-1232 E	26X				NASA BASE		[]	
SUBSYST MDAC ID ITEM:			ARC: 123: JET		ER (I	PRIMAI	RY-AI	LL)					
LEAD AN	ALYS	T:	D. I	IARTMA	N								
ASSESSMI	ENT:												
		FLIG		R	EDUN	IDANCY	SCF	REENS			CII	-	
	H	DW/Ft	INC	A	•	E	3	(C				
NASA IOA]	/]	[]	[]	<u>[</u>]		[]	*
COMPARE	[/]	[]	ι]	[]		[]	
RECOMMEN	IDAT:	ions:	(I	f dif	fere	nt fr	om N	ASA)					
_	[/]	[]	[J	[]	(AD	[D/D] ELET	ΓE)
* CIL RE		TION	RATIO	NALE:	(If	appl	icab	A	DEQUA DEQUA		[]	
THIS FAI	LURE	COV	ERED	BY A	GN&C	FMEA	•						

SUBSYSTEM MANAGER STATED THAT THE RJDS WERE PART OF THE GN&C ANALYSIS. IOA RECOMMENDS A REFERENCE TO THE GN&C FMEAS BE MADE IN THE RCS EPD&C FMEAS.

ASSESSMENT DATE: 1/29/88

NASA DATA:

ASSESSM NASA FM			ARCS NONE	5-1232 E		BASE	NEW	[]				
SUBSYST MDAC ID ITEM:			ARCS 1232 JET		R (V	ERNIE	R-AL	L)					
LEAD AN	IALYST	r:	D. H	IARTMA	N								
ASSESSM	ENT:												
		rical FLIG		R	EDUN	DANCY	SCR	EENS			CII		
	_			C A B C									
NASA IOA] A	/]	[]	[]	[]		[]	*
COMPARE] 3	/	1	[]	[]	[]		[]	
RECOMME	ENDAT	IONS	: (]	(f dif	fere	nt fi	om N	ASA)					
	[/	1	ι,]	[]	[]	(A)	[DD/I] DELE	TE)
* CIL F		TION	RATIO	ONALE:	(If	appl	licab		ADEQU ADEQU	JATE JATE	[]	
REMARKS THIS FA		E CO	VERED	BY A	GN&C	FME?	4 .						

SUBSYSTEM MANAGER STATED THAT THE RJDS WERE PART OF THE GN&C ANALYSIS. IOA RECOMMENDS A REFERENCE TO THE GN&C FMEAS BE MADE IN THE RCS EPD&C FMEAS.

ASSESSMI ASSESSMI NASA FMI	ENT :	ID:	1/29/8 ARCS-1 NONE		1	NASA 1 BASE		[]			
	SUBSYSTEM: ARCS MDAC ID: 12328 ITEM: JET DRIVER (VERNIER-ALL) LEAD ANALYST: D. HARTMAN											
LEAD AND	ALYS'	r:	D. HAI	RTMAI	1							
ASSESSMI	ENT:											
		TICAL FLIGH	ITY	RI	EDUND	ANCY	SCRE	ENS			CIL	
			NC	A		В		(С		ITEN	1
NASA IOA	[[/]	[]	[]	[]		[] *]
COMPARE	[/	1	[]	[1	ξ]		[]
RECOMMEN	IDAT:	ions:	(If	difi	feren	t fro	om NAS	SA)				
_	[1.]	[]	[]	[]	(AD	[D/DE] :LETE)
* CIL RE		rion :	RATIONA	ALE:	(If	appl:	icable	7	ADEQUA ADEQUA	ATE ATE	[]
REMARKS: THIS FAI		E COV	ERED BY	A	SN&C	FMEA.	•					

SUBSYSTEM MANAGER STATED THAT THE RJDS WERE PART OF THE GN&C ANALYSIS. IOA RECOMMENDS A REFERENCE TO THE GN&C FMEAS BE MADE IN THE RCS EPD&C FMEAS.

ASSESSME														-	SA DA ASELI		[]	
SUBSYSTE MDAC ID:				123	338	IIT	СН												
LEAD ANA	LYS	ST:	:	D.	HART	'MA	N												
ASSESSME	ASSESSMENT: CRITTCALITY REDUNDANCY																		
											sc	REE	NS	3			CIL		
		A				В				С				_					
NASA IOA	[3	/ /2R]		[[P]		[P]]	P]		[] *	
COMPARE	[N	/N	3		[N]		[N]		[N]		[]	
RECOMME	NDA'	TI	ons:		(If	dif	fer	cen	t	fr	om	NAS	A)					
_	ſ	3	/2R]		[F)		[P]		[P	1	(A	[DD/D		E)
* CIL R	ETE	NT	ION	RAT	ONA	LE:	()	Ιf	ap	pl	ic	able			DEQU <i>A</i> DEQU <i>A</i>		[]	
REMARKS A MICRO VALVE P CLOSED.	SWI	TT	ON.	TH	ITS M	AΥ	LE	AD	ΤO	F	ΑL	SEL	Ĺ	r A	TTTM	OICA TH	TION E VA	OF LVE	THE

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12329 NONE	x	NASA DATA BASELINE NEW	[]
	ARCS 12329 DIODE			
LEAD ANALYST:	D. HARTMAN			
ASSESSMENT:				
CRITICALI FLIGHT	TY REI	OUNDANCY SCREEN	is	CIL ITEM
HDW/FUN	C A	В	С	IILM
NASA [/ IOA [2 /1R] []]	[] [[P]	p]	[] *
COMPARE [N /N] [N]	[и]	ן א ן	[N]
RECOMMENDATIONS:	(If diffe	rent from NASA	٠,)	
[2 /1R -] [P]	[P] [[A] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If applicable)	ADEQUATE	Г J
REMARKS:			NADEQUATE	נ ז
THIS FAILED OPEN PREDUNDANCY PROVIDED INABILITY TO EXPER CONSTRAINTS.	ED BY OTHER	VALVE, LOSS	OF THIS CALL	CEC

SUBSYSTEM MANAGER STATED THAT THE DIODE WAS PART OF THE HELIUM TANK ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

NASA DATA:

ASSESSMEN ASSESSMEN NASA FMEA	T	ID		1/2 ARC NON	:S-12:	330X				NASA BASE	LINE]
SUBSYSTEM MDAC ID:	1:			123 DIC	330								
LEAD ANA	LYS	T:		D.	HART	MAN							
ASSESSME	NT:												
•	CRI		CAL			REDU	JNDANG	CY SO	CREENS	3		CII	
	F		LIGH V/FU			A		В		С			
NASA IOA	[3	/ /3]]]]]	[[]		[] *]
COMPARE	[N	/N]	[]	[]	[]		[]
RECOMMEN	DA!	ric	ons:		(If d	liffe	rent :	from	NASA)			
	[3	/3	1	ſ]	[]	[]	(A	[.DD/I] DELETE)
* CIL RE	TE	NT:	ION	RAT	PIONAI	Æ: (If ap	plic		ADEQ NADEQ	UATE UATE	[]
REMARKS: THIS FAI	LE	D	SHOI	RT E	OIODE	CAUS	ES NO	EFF	ECT.				

SUBSYSTEM MANAGER STATED THAT THE DIODE WAS PART OF THE HELIUM TANK ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 ARCS-12: NONE	331X		NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12331 MICROSWI	гтсн			
LEAD ANALYST:	D. HARTM	IAN			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDAN	CY SCREENS		CIL ITEM
HDW/FU	1C	A	В	С	1164
NASA [/ IOA [3 /2R] [] [P]] [P] [] P]	[] *
COMPARE [N /N] [и] [и ј [:	N]	[]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)		
[3 /2R] [P] [P] []		[] D/DELETE)
* CIL RETENTION R	ATIONALE	: (If app	licable)		·
REMARKS:			IN	ADEQUATE ADEQUATE	•
THIS FAILED MICRO VALVE POSITION. LEAD TO FALSELY F	REDUNDAN AILING TI	CY PROVIN	ED TACC	OF ALL DE	OTTATO 3 3 5 0 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE HELIUM TANK ISOLATION VALVE ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

MISSION OPERATIONS.

	1/29/88 ARCS-12332 NONE	×]	NASA DATA: BASELINE NEW	[]
	ARCS 12332 MICROSWITC	:H				
LEAD ANALYST:	D. HARTMAN	ī				
ASSESSMENT:						
CRITICALI		DUNDANCY	SCREENS		CIL	_
FLIGHT HDW/FUN		В	(C	ITEM	
NASA [/ IOA [2 /2] [] [] []	[x] *
COMPARE [N /N] [] [] [1	[N]
RECOMMENDATIONS:	(If diff	erent fro	om NASA)			
[2 /2] [] [] [] (AI	(A DD/DE] LETE)
* CIL RETENTION F	RATIONALE:	(If appli			_	_
			INZ	ADEQUATE ADEQUATE	[]
REMARKS: THE MICROSWITCH F THE VALVE TO BE C LOSS OF MISSION C	CLOSED. TH	IS PREVEN	ITS CROSS	NTACTS WII SFEED CAPA ROSSFEED I	BILI	TY THUS

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE TANK ISOLATION VALVE 1/2 ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

RTLS/TAL MAY CAUSE INCOMPLETE OMS ABORT DUMP.

ASSESSME ASSESSME NASA FME	NT ID:										ASA DA BASEL:		[]	
SUBSYSTE MDAC ID:		ARCS 12333 MICRO		ETC	СН										
LEAD ANA	LYST:	D. HA	RTN	(A)	N										
ASSESSME	NT:														
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C															
FLIGHT														-	
NASA IOA	[/	.R]	[P]]	P]	[[P]		[] *	•
COMPARE	[N /N]	[N]	[N]	ι	N]		[] .	
RECOMMEN		•													
_	[3 /1	.R]	[P]	[P]	[P]	(AI	[DD/D		E)
* CIL RE	TENTION	RATION	ALI	Ξ:	(If	ap	pl	icak	ole)	Αl	DEQUA!	ГE	r	1	
REMARKS: THE MICR FROM BEI REDUNDAN	NG OPEN	ED. HA	RDV	IAV	RE R	EDU	ND.	ANCY	I CO	AN TN VC	DEQUATACTS I	PREV	oss (OF A	LL

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE TANK ISOLATION VALVE 3/4/5 ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

MEET LANDING WEIGHT CONSTRAINTS.

ASSESSME	ASSESSMENT DATE: 1/29 ASSESSMENT ID: ARCS NASA FMEA #: NONI BUBSYSTEM: ARCS							X						ASA I BASEI		[]	
SUBSYSTEMDAC ID:	M:			12	CS 334 CROS	W]	(TC	ЭН										
LEAD ANA	LYS	T	:	D.	HAR	Tŀ	(A)	1										
ASSESSME	NT:	:																
•	CRI		ICAL				RE	DUN	DAN	CY	SCR	EEN	s			CIL		
	F		LIGH W/FU				A			В			С			ITE	M	
NASA IOA	[3	/ /1R]		[[P]	[N2]	[P]		[]	*
COMPARE	[N	/N]		[N]	[N]	[N]		[]	
RECOMMEN	DAT	rI(ons:		(If	di	Ĺff	ere	nt	fro	om N	(ASA)					
_	[3	/1R]		[P]	[NZ	\]	[P]	(AI	[D/D] ELI	ETE)
* CIL RE	TEN	T:	ION I	RAT	IONA	LF	2:	(If	ap	pl:	icab	•		DEQU <i>A</i> DEQU <i>A</i>		-]	
REMARKS: THE MICROFROM BEI												E C	'NC	racts	PRE	EVEN		VALVI

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE CROSSFEED ISOLATION VALVE 3/4/5 ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSME ASSESSME NASA FME	9/88 S-12: E	335	5X					N	IASA BASE		[]					
SUBSYSTE MDAC ID: ITEM:				ARC 123 MIC		ΙΤ¢	CH										
LEAD ANA	LY	ST	:	D. 1	HARTI	IAN	1										
ASSESSME	NT	:															
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C																	
	3					A			В			C	2		TTE	.M	
NASA IOA	[3	/ /1R]	[P]	[P]		((I]		[]	*
COMPARE	[N	/N]	[N]	[N]		()	1]		[]	
RECOMMEN	DA'	ri	ons:	(If d	if	fere	nt :	fro	om 1	NAS	A)					
_	[3	/1R]	ĺ	P]	[P]		(I	?]	(A)	[DD/E) ELI	ETE)
* CIL RE	TE	NT:	ION 1	RATI	ONAL	Ε:	(If	ap	pl:	lcak		7	ADEQU.		[]	
REMARKS: THE MICE FROM BET	osi												TACT				

SUBSYSTEM MANAGER STATED THAT THE MICROSWITCH WAS PART OF THE CROSSFEED ISOLATION VALVE 3/4/5 ASSEMBLY. FOR COMPLETENESS, IOA RECOMMENDS THIS FAILURE BE INCORPORATED INTO A FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/8 ARCS-1 NONE		6X]	NASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12336 MICROS	SWIT	СН							
LEAD ANALYST:	D. HAI	RTMAI	N							
ASSESSMENT:										
CRITICAL		R	EDUND	ANCY	SCREI	ens		CIL	м	
FLIGH HDW/FU		A		В			С		•	
NASA [/ IOA [3 /21] ?]	[]	[]	[]	[] *	
COMPARE [N /N	1	ſ]	C]	[]	[]	
RECOMMENDATIONS	(If	dif	ferer	nt fr	om NA	SA)				
[3 /2] —	R]	[P]	[P]	[P] (A	[.DD/D] ELETE)	
* CIL RETENTION	RATION	ALE:	(If	appl	icabl		ADEQUATE ADEQUATE	-]	
REMARKS: A MICROSWITCH F. VALVE POSITION.	AILURE THIS	CAUS MAY	ES LO	OSS O	F ACC	URA Y F	TE INDICA	TION E VA	OF TH	H

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

CLOSED, POSSIBLY EFFECTING MISSION OPERATIONS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARCS-12	337X			ì	NASA DATA BASELINE NEV	E []	
	ARCS 12337 MICROSW	ITCH							
LEAD ANALYST:	D. HART	MAN							
ASSESSMENT:									
CRITICAL FLIGH		REDUND	ANCY	SCRE	ENS		CIL		
HDW/FU	_	A	В		c	:	ITE	M	
NASA [/ IOA [3 /2R] [P]	[[P]	[[F	,]	[]	*
COMPARE [N /N] [N]	[N]	[N]	[]	
RECOMMENDATIONS:	(If d	ifferen [.]	t fro	om NA	SA)				
[3 /2R] [Pj	[P]	[P		[DD/D:		TE)
* CIL RETENTION	RATIONALI	E: (If a	appli	cable	-	DD4	_		
REMARKS:						DEQUATE DEQUATE	[]	
A MICROSWITCH FAT VALVE POSITION. CLOSED, POSSIBLY	THIS MAY	LEAD ?	ro fa	LSELY	/ FA	ILING TH	TION E VA	OF LVE	THE

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMENT ASSESSMENT NASA FMEA	r II):	ARCS NONI	5-123	39	X						ASELIN NI	1E	[]	
SUBSYSTEM: MDAC ID: ITEM:	•		ARCS 1233 MICI		TC	:H										
LEAD ANAL	YST:		D. 1	HARTM	IAN	Ī										
ASSESSMENT	r:															
CI		CAL:			RE	DUN	DANC	CY	SCF	REENS	;			CIL	4	
			NC		A			В			С				_	
NASA IOA	[3	/ /2R]]	P]	[P]	[[P]		[]	*
COMPARE	[И	/N]	[N]	[N]	£	N]		[]	
RECOMMENDA	ATIC	ONS:	(If di	lf1	ere	ent :	fro	om 1	NASA)						
-	[3	/2R]	[P]	£	P]	[P]	(AI	[DD/DI		TE)
* CIL RET	ENT:	ION I	RATI	ONALI	Ξ:	(If	ap	01 :	ical			DEQUAT:		_]	
REMARKS: A MICROSW VALVE POS CLOSED, PO	ITI	ON.	THI	S MAY	<i>[</i>]	LEAI	OT C	F	ALSI	CCURA ELY I	TI A	E INDI	CAI	TION	OF LVE	THE

ISSUE NOT RESOLVED AT MEETING WITH SUBSYSTEM MANAGER ON 1/20/88.

ASSESSMI ASSESSMI NASA FMI	ent	I			AI	/29/ RCS- 5-6K	12	34		3						ASA DA BASELI N		[x]	
SUBSYSTI MDAC ID: ITEM:					12	RCS 2340 CODE															
LEAD AND	ALY	ST	:		D.	HA	RT!	MA	N												
ASSESSMI	ENT	:																			
		F	LI	AL GH FUI	r	?		RI A	EDUN	NDA:		Y B	SCRE	ENS	s C				IL PEN	1	
NASA IOA	[3	/	1R 1R]		[P P]		[F F]	[P P]		[X X]	*
COMPARE	[/]		[]		[]	[]		(]	
RECOMMEN	IDA'	ric	NC	s:		(If	d :	if	fere	ent	f	rc	m NA	SA))						
_	[/]		[]		[]	[(AC	[D/	'DF] ELF	ETE
* CIL RE		1T]	[O	N F	rat	'ION	ALI	Ξ:	(If	a]	pp:	li	.cabl	-		EQUATI		[]	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/8 ARCS-1 05-6KA	2341					SA DATA: ASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	ARCS 12341 DIODE								
LEAD ANALYST:	D. HAR	TMAN	•						
ASSESSMENT:									
CRITICAL		RE	DUNDA	NCY	SCREE	NS		CIL ITEN	4
FLIGH HDW/FU		A		В		С			_
NASA [3 /1F IOA [3 /1F	R]	[P]	[F]	[P]	[X] *
COMPARE [/]	[1	[3	[1	[1
RECOMMENDATIONS	: (If	dif:	ferent	t fr	om NAS	A)			
[/	1	[]	[]	[] (A	[.DD/D] ELETE)
* CIL RETENTION	RATION	ALE:	(If	appl	icable	n	DEQUATE DEQUATE	[]
REMARKS: NO DIFFERENCES.									

ASSESSMI ASSESSMI NASA FMI	ent	'I	D:	1/29 ARCS 05-6	-12	34							ASA I BASEI		[]	
SUBSYSTI MDAC ID: ITEM:				ARCS 1234 DIOD	2										-		•	
LEAD ANA	TY	ST	:	D. H	ART	MA	N											
ASSESSME	ENT	:																
	CR		ICAL LIGH	ITY T		R	EDUN	IDAI	1CY	SCR	REEN	s			CI			
]	HD	W/FU	NC		A			В			С			11	E	1	
NASA IOA		3	/1R /1R]	[P P]	[F]	[P P]		[X X]	*
COMPARE	[/]	[]	[]	[]		[J	
RECOMMEN	DA?	ric	ons:	(II	f di	Ĺfí	fere	nt	fr	om N	ASA))						
_	[/]	[]	[]	[]	(AE	[D/] :LE	TE)
* CIL RE	TEN	ITI	ON F	NOITAS	ALE	2:	(If	ap	pli	cab			EQUA		[1	
REMARKS: NO DIFFE	REN	ICE	s.								IN	AD	EQUAT	ΓE	Ī		j	

ASSESSME ASSESSME NASA FME	ENT	IL		AR	CS-1	L23									ASA BASE		E	[]	
SUBSYSTE MDAC ID:					CS 343 ODE																
LEAD ANA	LYS	T:	;	D.	HAF	RTI	IAN	1													
ASSESSME	ENT:	:																			
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APPENDIX D

SUMMARY OF RCS ASSESSMENT RECOMMENDED CRITICAL ITEMS LIST

APPENDIX D IOA RECOMMENDED CRITICAL ITEMS - FORWARD HARDWARE

NUMBER		FAILURE MODE
		-
:S-100	HELIUM STORAGE TANK	STRUCTURAL FAILURE (RUPTURE OR LEAK)
S-105	HE LINE, ALL EXCEPT ISOL VLV TO PRESS REGULATOR	STRUCTURAL FAILURE (RUPTURE OR LEAK)
S-107	HE LINE, ISOL VLV TO PRESS REGULATOR	STRUCTURAL FAILURE (RUPTURE OR LEAK)
S-103	HE ISOL A & B VLVS	FAILS TO CLOSE, LEAKS INTERNALLY
S-104	HE ISOL A & B VLVS	FAILS TO OPEN
S-10004X	HE PRESS REGULATOR ASSEMBLY	INTERNAL LEAKAGE
S-111	HE PRESS REGULATOR ASSEMBLY	FAILS OPEN, REGULATES AT HIGHER PRESSUR
S-112	HE PRESS REGULATOR ASSEMBLY	FAILS CLOSED
s-10001x	PRESSURE RELIEF ASSEMBLY	EXTERNAL LEAKAGE
S-10009X	PRESSURE RELIEF ASSEMBLY	EXTERNAL LEAKAGE
s-10007x	PRESSURE RELIEF ASSEMBLY	VALVE FAILS OPEN, OR LEAKS INTERNALLY
S-141	PRESSURE RELIEF ASSEMBLY	BURST DISK FAILURE, POPPET VALVE FAILS
S-140A	PRESSURE RELIEF ASSEMBLY	BURST DISK RUPTURE (LOW PRESSURE), OR L
S-101	HELIUM FILL COUPLING	FAILS TO CLOSE OR LEAKS
S-159	MANIFOLD 1, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
s-163	MANIFOLD 2, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
s-167	MANIFOLD 3, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
S-171	MANIFOLD 4, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
S-175	MANIFOLD 5, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
s-130	PROP TK UPPER COMPARTMENT CHANNEL CHECKOUT COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
s-109	HIGH PRESSURE HELIUM TEST PORT COUPLINGS A & B	FAILS TO CLOSE, LEAKS
S-117	HE PRESS REGULATOR OUTLET TEST PORT COUPLING	FAILS TO CLOSE, LEAKS
S-121	QUAD CHECK VALVE TEST PORT COUPLINGS A & B	FAILS TO CLOSE, LEAKS
5-142	RELIEF VALVE TEST PORT COUPLING	PRESS RELIEF VLV TEST PORT FAILS
5-119	QUAD CHECK VALVE ASSEMBLY	FAILS TO CLOSE, LEAKS (REVERSE FLOW)
S-120	QUAD CHECK VALVE ASSEMBLY	FAILS TO OPEN
s-10005x	QUAD CHECK VALVE ASSEMBLY	RESTRICTED FLOW
S-138	GIMBAL BELLOWS	STRUCTURAL FAILURE (RUPTURE OR LEAK)
-124	PROP LINES, ALL	STRUCTURAL FAILURE (RUPTURE OR LEAK)
i-158	MANIFOLD 1, ISOL VLV	FAILS TO OPEN
- 162	MANIFOLD 2, ISOL VLV	FAILS TO OPEN
- 166	MANIFOLD 3, ISOL VLV	FAILS TO OPEN
- 170	MANIFOLD 4, ISOL VLV	FAILS TO OPEN
-10012x	MANIFOLD 1-4 ISOLATION VALVES	RELIEF DEVICE FAILS TO RELIEVE
-147	PROP TK ISOL VLVS 1/2 & 3/4/5	LEAKS EXTERNALLY
- 177	MANIFOLD ISOL VLVS	LEAKS EXTERNALLY
-148	PROP TK ISOL VLVS 1/2 & 3/4/5	RESTRICTED FLOW
- 150	PROP TK ISOL VLV 1/2	FAILS TO OPEN
-152 j	PROP TK ISOL VLV 3/4/5	FAILS TO OPEN
-10010x	PROP TANK ISOL VLVS 1/2 & 3/4/5	
-126	PROP FILL VENT REGULATOR CHECKOUT COUPLING	RELIEF DEVICE FAILS TO RELIEVE
- 132 j		FAILS TO CLOSE, LEAKS EXTERNALLY
-134		FAILS TO CLOSE, LEAKS EXTERNALLY
-136		FAILS TO CLOSE, LEAKS EXTERNALLY
-153		FAILS TO CLOSE, LEAKS EXTERNALLY
		FAILS TO CLOSE, LEAKS EXTERNALLY FAILS TO CLOSE, LEAKS EXTERNALLY
- 134 - 136	 	PROP TK LOWER COMPARTMENT CHANNEL BLEED COUPLING PROP TK LOWER COMPARTMENT BULKHEAD BLEED COUPLING PROP TK VENT AND REGULATOR CHECKOUT COUPLING MANIFOLD 1/2 FILL & DRAIN/PURGE COUPLING MANIFOLD 3/4/5 FILL & DRAIN/PURGE COUPLING

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, 03-2F-102170-3	FRCS-177A	MANIFOLD ISOL VLVS	LEAKS EXTERNALLY
03-2F-111110-1	FRCS-123	PROPELLANT TANK	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2F-111110-3	FRCS-128	PROP CHANNEL SCREENS	STRUCTURAL FAILURE (RUPTURE)
03-2F-121308-1	FRCS-179	JET ALIGNMENT BELLOWS, PRIMARY, ALL AXES	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2F-121310-1	,	THRUSTER BIPROP SOLENOID VLV, PRIMARY, ALL AXES	FAILS ON, PREMATURE OPERATION
03-2F-121310-2	FFRCS-185	THRUSTER BIPROP SOLENOID VLV, PRIMARY, -X AXIS	LEAKS INTERNALLY, ONE PROPELLANT
	FRCS-181	THRUSTER BIPROP SOLENOID VLV, PRIMARY, ALL AXES	FAILS TO CLOSE
	FRCS-187	THRUSTER BIPROP SOLENOID VLV, PRIMARY, Y AXIS	LEAKS INTERNALLY, ONE PROPELLANT
	FRCS-189	THRUSTER BIPROP SOLENOID VLV, PRIMARY, Z AXIS	LEAKS INTERNALLY, ONE PROPELLANT
03-2F-121310-3	FRCS-10015X	THRUSTER BIPROP SOLENOID VALVE, PRIMARY, +Z AXIS	FAILS CLOSED, FAILS OFF
	FRCS-184	THRUSTER BIPROP SOLENOID VLV, PRIMARY, -X AXIS	FAILS TO OPEN
	FRCS-186	THRUSTER BIPROP SOLENOID VLV, PRIMARY, Y AXIS	FAILS TO OPEN
	FRCS-188	THRUSTER BIPROP SOLENOID VLV, PRIMARY, Z AXIS	FAILS TO OPEN
03-2F-121312-1	FRCS-197	THRUSTER CHAMBER OR NOZZLE, PRIMARY, ALL AXES	THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
03-2F-121313-1	FRCS-197A	THRUSTER CHAMBER OR NOZZLE, PRIMARY, ALL AXES	THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
03-2F-131310-1	FRCS-193	THRUSTER BIPROP SOLENOID VLV, VERNIERS, ALL AXES	FAILS TO OPEN
	FRCS-196	THRUSTER BIPROP SOLENOID VLV, VERNIERS, ALL AXES	RESTRICTED FLOW
03-2F-131310-2	FRCS-192	THRUSTER BIPROP SOLENOID VLV, VERNIERS, ALL AXES	FAILS TO CLOSE
•	FRCS-195	THRUSTER BIPROP SOLENOID VLV, VERNIERS, ALL AXES	LEAKS INTERNALLY, ONE PROPELLANT
03-2F-131310-4	FRCS-198	THRUSTER CHAMBER OR NOZZLE, VERNIER, ALL AXES	THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
NONE	FRCS-10002X	HE ISOL VLV	RESTRICTED FLOW
	FRCS-10003X	HE ISOL VLV	EXTERNAL LEAKAGE
	FRCS-10006X	QUAD CHECK VALVE ASSEMBLY	EXTERNAL LEAKAGE
	FRCS-10008X	PRESSURE RELIEF ASSEMBLY	RESTRICTED FLOW
	FRCS-10014X	MANIFOLD 5 ISOLATION VALVE	RELIEF DEVICE FAILS TO RELIEVE
	FRCS-10018X	THRUSTER INJECTOR HEAD ASSEMBLY, PRIMARY	RESTRICTED FLOW .
	FRCS-10019X	THRUSTER INJECTOR HEAD ASSEMBLY, PRIMARY	STRUCTURAL FAILURE, BURN-THROUGH
	FRCS-10042X	THRUSTER BIPROP SOLENOID VALVE, PRIMARY, ALL AXES	DELAYED OPERATION, VALVE OPENS SLOWLY, LATE
	FRCS-103A	HE ISOL A & B VLVS	FAILS TO CLOSE, LEAKS INTERNALLY
	FRCS-113	HE PRESS REGULATOR ASSEMBLY	RESTRICTED FLOW
	FRCS-114	HE PRESS REGULATOR ASSEMBLY	LEAKS EXTERNALLY
	FRCS-115	HE PRESS REGULATOR PRIMARY SENSING PORT	LEAKS EXTERNALLY
	FRCS-140	PRESSURE RELIEF ASSEMBLY	BURST DISK RUPTURE (LOW PRESSURE), OR LEAKS
	FRCS-146	GROUND MANUAL ISOLATION VALVE	LEAKS EXTERNALLY
	FRCS-178	MANIFOLD ISOL VLVS	RESTRICTED FLOW
	FRCS-182	THRUSTER BIPROP SOLENOID VLV, PRIMARY, ALL AXES	LEAKS EXTERNALLY, ONE PROPELLANT
	FRCS-183	THRUSTER BIPROP SOLENOID VLV, PRIMARY, ALL AXES	RESTRICTED FLOW
	FRCS-194	THRUSTER BIPROP SOLENOID VLV, VERNIERS, ALL AXES	LEAKS EXTERNALLY, ONE PROPELLANT

APPENDIX D IOA RECOMMENDED CRITICAL ITEMS - AFT HARDWARE

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-2A-201010-1	ARCS-199	HELIUM STORAGE TANK	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2A-201013-1	ARCS-204	HE LINE, ALL EXCEPT ISOL VLV TO PRESS REGULATOR	STRUCTURAL FAILURE (RUPTURE OR LEAK)
	ARCS-206	HE LINE, ISOL VLV TO PRESS REGULATOR	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2A-201020-1	ARCS-203	HE ISOL A & B VLVS	FAILS TO OPEN
3-2A-201020-2	ARCS-202	HE ISOL A & B VLVS	FAILS TO CLOSE, LEAKS INTERNALLY
03-2A-201030-1	ARCS-10022X	HE PRESS REGULATOR ASSEMBLY	INTERNAL LEAKAGE
	ARCS-210	HELIUM PRESSURE REGULATOR ASSEMBLY	FAILS OPEN, REGULATES AT HIGH PRESSURE
3-2A-201030-2	ARCS-211	HELIUM PRESSURE REGULATOR ASSEMBLY	FAILS CLOSED
	ARCS-212	HELIUM PRESSURE REGULATOR ASSEMBLY	RESTRICTED FLOW
3-2A-201060-1	ARCS-10027X	PRESSURE RELIEF ASSEMBLY	EXTERNAL LEAKAGE
3-2A-201060-2	ARCS-10025X	PRESSURE RELIEF ASSEMBLY	VALVE FAILS OPEN, OR LEAKS INTERNALLY
3-2A-201060-3	ARCS-242	PRESSURE RELIEF ASSEMBLY	BURST DISK FAILS, POPPET VALVE FAILS
3-2A-201060-5	ARCS-241A	PRESSURE RELIEF ASSEMBLY	BURST DISK RUPTURES (LOW PRESSURE), LE
3-2A-201070-1	ARCS-200	HELIUM FILL COUPLING	FAILS TO CLOSE, LEAKS
3-2A-201080-1	ARCS-254	MANIFOLD 1/2 GROUND PURGE COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
	ARCS-256	MANIFOLD 3/4/5 GROUND PURGE COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
	ARCS-268	MANIFOLD 1, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
	ARCS-272	MANIFOLD 2, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
j	ARCS-276	MANIFOLD 3, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
	ARCS-280	MANIFOLD 4, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
j	ARCS-284	MANIFOLD 5, GROUND PURGE/DRAIN COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
3-2A-201090-1	ARCS-229	PROP TK UPPER COMPARTMENT CHANNEL CHECKOUT COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
Ì	ARCS-233	PROP TK LOWER COMPARTMENT CHECKOUT COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
İ	ARCS-235	PROP TK PLENUM SCREEN CHECKOUT COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
3-2A-201091-1	ARCS-208	HIGH PRESSURE HELIUM TEST PORT COUPLINGS A & B	FAILS TO CLOSE, LEAKS
İ	ARCS-216	HELIUM PRESSURE REGULATOR OUTLET TEST PORT COUPLING	FAILS TO CLOSE, LEAKS
Ì	ARCS-220	QUAD CHECK VALVE TEST PORT COUPLINGS A & B	FAILS TO CLOSE, LEAKS
Ì	ARCS-243A	RELIEF VALVE TEST PORT COUPLING	PRESS RELIEF VALVE TEST PORT FAILS
3-2A-201095-1	ARCS-218	QUAD CHECK VALVE ASSEMBLY	FAILS TO CLOSE, LEAKS (REVERSE FLOW)
3-2A-201095-2	ARCS-219	QUAD CHECK VALVE ASSEMBLY	FAILS TO OPEN
3-2A-201095-3	ARCS-10023X	QUAD CHECK VALVE ASSEMBLY	RESTRICTED FLOW
3-2A-202108-1	ARCS-223	PROP LINES, ALL	STRUCTURAL FAILURE (RUPTURE OR LEAK)
	ARCS-265	CROSSFEED LINES	STRUCTURAL FAILURE (RUPTURE OR LEAK)
3-2A-202110-1	ARCS-251	PROP TANK ISOL VLV 1/2	FAILS TO OPEN
3-2A-202110-2	ARCS-10029X	PROP TANK ISOL VLV 1/2	RELIEF DEVICE FAILS TO RELIEVE
3-2A-202110-3	•	PROP TANK ISOL VLV 1/2	FAILS TO CLOSE, LEAKS INTERNALLY
į	ARCS-252	PROP TANK ISOL VLV 3/4/5/ A & B	FAILS TO CLOSE, LEAKS INTERNALLY
3-2A-202111-2	ARCS-261	RCS CROSSFEED VLV 1/2	FAILS TO OPEN
i	ARCS-263	RCS CROSSFEED VLV 3/4/5	FAILS TO OPEN
3-2A-202112-1	ARCS-248	PROP TANK ISOL VLVS 1/2 & 3/4/5	LEAKS EXTERNALLY
i	ARCS-259	RCS CROSSFEED VLV 1/2 OR 3/4/5	LEAKS EXTERNALLY
i	ARCS-286	MANIFOLD ISOL VLVS	LEAKS EXTERNALLY
3-2A-202120-2	•	MANIFOLD 1-4 ISOL VALVES	
3-2A-202120-3		MANIFOLD 1, ISOL VLV	RELIEF DEVICE FAILS CLOSED
	ARCS-271	MANIFOLD 2, ISOL VLV	FAILS TO OPEN
i	ARCS-275	MANIFOLD 3, ISOL VLV	FAILS TO OPEN FAILS TO OPEN

	ASSESSMENT ID	:=====================================	FAILURE MODE
NUMBER	NUMBER		1
03-2A-202120-3	ARCS-279	MANIFOLD 4, ISOL VLV	FAILS TO OPEN
03-2A-202140-1	_	MANIFOLD 5, ISOL VLV	FAILS TO OPEN
03-2A-202140-3		VERNIER MANIFOLD ISOL VALVE	RELIEF DEVICE FAILS CLOSED
	ARCS-286A	MANIFOLD ISOL VLVS	LEAKS EXTERNALLY
03-2A-202150-1	ARCS-225	PROP FILL/VENT COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
	ARCS-231	PROP TK LOWER COMPARTMENT CHANNEL BLEED COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
, 	ARCS-237	PROP TK ENTRY SUMP BLEED COUPLING	FAILS TO CLOSE, LEAKS EXTERNALLY
03-2A-211110-1	ARCS-222	PROPELLANT TANK	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2A-211110-2	:	PROP CHANNEL SCREENS	STRUCTURAL FAILURE (RUPTURE)
03-2A-211120-1	ARCS-239	GIMBAL BELLOWS	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2A-221308-1	ARCS-288	JET ALIGNMENT BELLOWS, PRIMARY, ALL AXES	STRUCTURAL FAILURE (RUPTURE OR LEAK)
03-2A-221310-1	ARCS-290	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, ALL AXES	FAILS TO CLOSE
i	ARCS-294	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, +X AXIS	LEAKS INTERNALLY, ONE PROPELLANT
i	ARCS-296	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, Y AXIS	LEAKS INTERNALLY, ONE PROPELLANT
	ARCS-298	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, Z AXIS	LEAKS INTERNALLY, ONE PROPELLANT
03-2A-221310-3	ARCS-10138X	THRUSTER BIPROP SOLENOID VALVE, PRIMARY, ALL AXES	PREMATURE OPERATION, FAILS ON
03-2A-221310-4	ARCS-293	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, +X AXIS	FAILS TO OPEN
	ARCS-295	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, Y AXIS	FAILS TO OPEN
	ARCS-297	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, Z AXIS	FAILS TO OPEN
03-2A-221312-1	ARCS-306	THRUSTER CHAMBER OR NOZZLE, PRIMARY, ALL AXES	THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
03-2A-221313-1	ARCS-306A	THRUSTER CHAMBER OR NOZZLE, PRIMARY, ALL AXES	THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
03-2A-231310-1	ARCS-302	THRUSTER BIPROP SOLENOID VLVS, VERNIERS, ALL AXES	FAILS TO OPEN
	ARCS-305	THRUSTER BIPROP SOLENOID VLVS, VERNIERS, ALL AXES	RESTRICTED FLOW THRUSTER CHAMBER OR NOZZLE BURNTHROUGH
03-2A-231310-2	ARCS-307	THRUSTER CHAMBER OR NOZZLE, PRIMARY, ALL AXES	•
03-2A-231310-3	ARCS-301	THRUSTER BIPROP SOLENOID VLVS, VERNIERS, ALL AXES	FAILS TO CLOSE
	ARCS-304	THRUSTER BIPROP SOLENOID VLVS, VERNIERS, ALL AXES	LEAKS INTERNALLY, ONE PROPELLANT RESTRICTED FLOW
NONE	ARCS-10020X	HE ISOL VLV	EXTERNAL LEAKAGE
	ARCS-10021X	HE ISOL VLV	EXTERNAL LEAKAGE
	ARCS-10024X	QUAD CHECK VALVE ASSEMBLY	RESTRICTED FLOW
	ARCS-10026X	PRESSURE RELIEF ASSEMBLY	RESTRICTED FLOW
	ARCS-10028X	PROP TANK ISOL VLVS 3/4/5	RESTRICTED FLOW
	ARCS-10040X	THRUSTER INJECTOR HEAD ASSY, PRIMARY	STRUCTURAL FAILURE, BURN-THROUGH
	ARCS-10041X	THRUSTER INJECTOR HEAD ASSY, PRIMARY	DELAYED OPERATION, VALVE OPENS SLOWLY, LATE
	ARCS-10043X	THRUSTER BIPROP SOLENOID VALVE, PRIMARY, ALL AXES	FAILS TO CLOSE, LEAKS INTERNALLY
	ARCS-202A	HE ISOL A & B VLVS	LEAKS EXTERNALLY
	ARCS-213	HELIUM PRESSURE REGULATOR ASSEMBLY HELIUM PRESSURE REGULATOR PRIMARY SENSING PORT	LEAKS EXTERNALLY
	ARCS-214	•	BURST DISK RUPTURES (LOW PRESSURE), LEAKS
	ARCS-241	PRESSURE RELIEF ASSEMBLY GROUND MANUAL ISOLATION VALVE	LEAKS EXTERNALLY
	ARCS-247	PROP TANK ISOL VLVS 1/2 & 3/4/5	RESTRICTED FLOW
	ARCS-249	RCS CROSSFEED VLV 1/2 OR 3/4/5	RESTRICTED FLOW
	ARCS-258		RESTRICTED FLOW
	ARCS-287	MANIFOLD ISOL VLVS THRUSTER BIPROP SOLENOID VLVS, PRIMARY, ALL AXES	LEAKS EXTERNALLY, ONE PROPELLANT
	ARCS-291	THRUSTER BIPROP SOLENOID VLVS, PRIMARY, ALL AXES	RESTRICTED FLOW
	ARCS-292		h

APPENDIX D IOA RECOMMENDED CRITICAL ITEMS - FORWARD EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	ITEM	FAILURE MODE
03-2F-103345-2	FRCS-1300	THERMOSTAT, VERNIER THRUSTERS, ALL AXES	FAILS TO CLOSE (FAILS OFFI)
03-2F-121317-1		HEATER 10W, THRUSTER, VERNIER, ALL AXES	FAILS TO CLOSE (FAILS OPEN).
05-6KF-2007 -1	FRCS-961	FUSE, 1A	FAILS OPEN
i	FRCS-964	FUSE, 1A	FAILS OPEN
i	FRCS-967	FUSE, 1A	FAILS OPEN
05-6KF-2008 -1	FRCS-960	FUSE, 1A	FAILS OPEN FAILS OPEN
İ		FUSE, 1A	FAILS OPEN
ĺ		FUSE, 1A	·
i	FRCS-970	FUSE, 1A	FAILS OPEN
05-6KF-2009 -1	FRCS-959	FUSE, 2A	FAILS OPEN
i	FRCS-962	FUSE, 2A	FAILS OPEN
i	FRCS-965	FUSE, 1A	FAILS OPEN
)5-6KF-2010 -1	FRCS-1196	FUSE, 7.5A	FAILS OPEN
05-6KF-2017 -1	FRCS-968	FUSE, 1A	FAILS OPEN
i	FRCS-971	FUSE, 1A	FAILS OPEN
05-6KF-2026 -2	FRCS-11081X	HE OX & FU ISOL VLV A OR B SWITCH	FAILS OPEN
:		HE OX & FU ISOL VLV A OR B SWITCH	SWITCH SHORTS ACROSS CONTACT SET
)5-6KF-2030 -2	•	MANIFOLD 1, OX & FU ISOL VLV SWITCH 30	SWITCH FAILS SHORT (WORST CASE)
i	FRCS-11097X	MANIFOLD 1, OX & FU ISOL VLV SWITCH 30	SWITCH FAILS SHORT (WORST CASE)
i	FRCS-11101X	MANIFOLD 2, OX & FU ISOL VLV SWITCH 31	SWITCH SHORT ACROSS CONTACT SET
ì	FRCS-11102X	MANIFOLD 2, OX & FU ISOL VLV SWITCH 31	SWITCH FAILS SHORT (WORST CASE)
i	•	MANIFOLD 3, OX & FU ISOL VLV SWITCH 32	SWITCH SHORTS ACROSS CONTACT SET
i		MANIFOLD 3, OX & FU ISOL VLV SWITCH 32	SWITCH FAIL SHORT (WORST CASE)
i	FRCS-11111X	MANIFOLD 4, OX & FU ISOL VLV SWITCH 33	SWITCH SHORTS ACROSS CONTACT SET
i	FRCS-11112X	MANIFOLD 4, OX & FU ISOL VLV SWITCH 33	SWITCH FAILS SHORT (WORST CASE)
5-6KF-2032 -2	FRCS-11005X	MANIFOLD 5, OX & FU ISOL VLV SWITCH	SWITCH SHORTS ACROSS CONTACT SET
i	FRCS-11007X	MANIFOLD 5, OX & FU ISOL VLV SWITCH	SWITCH SHORTS ACROSS CONTACT SET
5-6KF-2035 -1	,	RJDF1B F1 MANIFOLD LOGIC SWITCH 7	SWITCH SHORTS TO CASE OR POLE TO POL
i	FRCS-11119X	RJDF1B F1 MANIFOLD LOGIC SWITCH 7	SWITCH FAILS OPEN (WORST CASE)
i		RJDF1A F2 MANIFOLD LOGIC SWITCH 7	SWITCH SHORTS TO CASE OR POLE TO POL
	FRCS-11129X	RJDF1A F2 MANIFOLD LOGIC SWITCH 7	SWITCH FAILS OPEN (WORST CASE)
i	FRCS-11135X	RJDF2A F3 MANIFOLD LOGIC SWITCH 5	SWITCH SHORTS TO CASE OR POLE TO POL
i	FRCS-11139X	RJDF2A F3 MANIFOLD DRIVER SWITCH 5	SWITCH FAILS OPEN (WORST CASE)
5-6KF-2036 -1	FRCS-11120X	RJDF1B F1 MANIFOLD DRIVER SWITCH 8	SWITCH SHORTS TO CASE OR POLE TO POL
i	FRCS-11124X	RJDF1B F1 MANIFOLD DRIVER SWITCH 8	SWITCH FAILS OPEN (WORST CASE)
i	FRCS-11130X	RJDF1A F2 MANIFOLD DRIVER SWITCH 8	SWITCH SHORTS TO CASE OR POLE TO POL
i	FRCS-11134X	RJDF1A F2 MANIFOLD DRIVER SWITCH 8	SWITCH FAILS OPEN (WORST CASE)
		RJDF2A F3 MANIFOLD DRIVER SWITCH 6	SWITCH SHORTS TO CASE OR POLE TO POL
		RJDF2A F3 MANIFOLD DRIVER SWITCH 6	SWITCH FAILS OPEN (WORST CASE)
		RJDF2A F4/F5 MANIFOLD DRIVER SWITCH 13	SWITCH SHORTS TO CASE OR POLE TO POL
:		RJDF2A F4/F5 MANIFOLD DRIVER SWITCH 13	SWITCH FAILS OPEN (WORST CASE)
	· · · · · · · · · · · · · · · · · · ·	SWITCH, TOGGLE RCS/OMS HEATERS FWD RCS	SWITCH SHORTS TO CASE OR POLE TO POL
!	•	SWITCH, TOGGLE RCS/OMS HEATERS FWD RCS	SWITCH FAILS OPEN (WORST CASE)
:		SWITCH, TOGGLE RCS/OMS HEATERS FWD RCS	SWITCH FAILS SHORT ACROSS CONTACT SE
5-6KF-2041 -1		RJDF2B L5/F5/R5 MANIFOLD DRIVER SWITCH 15	SWITCH SHORTS TO CASE OR POLE TO POL
	,	RJDF2B L5/F5/R5 MANIFOLD DRIVER SWITCH 15	SWITCH FAILS OPEN (WORST CASE)
 ====================================			SWITCH SHORTS TO CASE OR POLE TO POL

	ASSESSMENT ID		FAILURE MODE
NUMBER	NUMBER		
5-6KF-2042 -1	FRCS-11180X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 18	SWITCH FAILS OPEN (WORST CASE)
1	FRCS-11182X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 18	SWITCH FAILS SHORT CONTACT SET
•	FRCS-11184X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 18	SWITCH SHORTS TO CASE OR POLE TO POLE
	FRCS-1000	RESISTOR, 1.2K 2W	FAILS OPEN
	FRCS-1016	RESISTOR, 1.2K 2W	FAILS OPEN
	FRCS-1018	RESISTOR, 1.2K 2W	FAILS OPEN
!	FRCS-1026	RESISTOR, 1.2K 2W	FAILS OPEN
•	FRCS-1050	RESISTOR, 1.2K 2W	FAILS OPEN
,		RESISTOR, 1.2K 2W	FAILS OPEN
5-6KF-2111 -1		DRIVER, HYBRID	FAILS OPEN
5-6KF-2113A-1		RELAY	FAILS OPEN
	FRCS-472	RELAY	FAILS OPEN
_ :	FRCS-478	:	FAILS HIGH
	FRCS-477	RELAY	FAILS HIGH
	FRCS-483	RELAY	FAILS HIGH
	FRCS-489	RELAY	FAILS HIGH
	FRCS-495	RELAY	FAILS OPEN
05-6KF-2127A-1	FRCS-484	RELAY	FAILS OPEN
	FRCS-490	RELAY	FAILS HIGH
05-6KF-2128 -2	FRCS-705	RELAY	FAILS HIGH
	FRCS-709	RELAY	FAILS HIGH
	FRCS-713	RELAY	FAILS HIGH
1	FRCS-717	RELAY	FAILS OPEN
05-6KF-2128A-1	FRCS-702	RELAY	FAILS OPEN
1	FRCS-706	RELAY	FAILS OPEN
1	FRCS-710	RELAY	FAILS OPEN
l,	FRCS-714	RELAY	FAILS HIGH
05-6KF-2128A-2	FRCS-703	RELAY .	FAILS HIGH
1	FRCS-707	RELAY	FAILS HIGH
1	FRCS-711	RELAY	FAILS HIGH
	FRCS-715	RELAY	FAILS OPEN
05-6KF-2130 -1	FRCS-972	RELAY	FAILS OPEN
ì	FRCS-974	RELAY	•
ļ	FRCS-976	RELAY, LATCHING	FAILS OPEN
05-6KF-2178 -1	FRCS-11020X	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KF-2179 -1		CONTROLLER, REMOTE POWER	FAILS OPEN
	FRCS-889	CONTROLLER, REMOTE POWER	FAILS OPEN
	FRCS-904	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KF-2180 -1	FRCS-887	CONTROLLER, REMOTE POWER	FAILS OPEN
	FRCS-891	CONTROLLER, REMOTE POWER	FAILS OPEN
	FRCS-902	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KF-2183 -1	FRCS-905	CONTROLLER, REMOTE POWER	FAILS OPEN
	FRCS-907	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KF-2208 -2		DRIVER, HYBRID	FAILS HIGH
	FRCS-673	DRIVER, HYBRID	FAILS HIGH
	FRCS-677	DRIVER, HYBRID	FAILS HIGH
	FRCS-681	DRIVER, HYBRID	FAILS HIGH
)5-6KF-2210 -2	FRCS-11025X	DRIVER, HYBRID	FAILS HIGH
)5-6KF-2211 -1		DRIVER, HYBRID	FAILS OPEN
)5-6KF-2214 -1	: <u>.</u>	DRIVER, HYBRID	FAILS OPEN
		DRIVER, HYBRID	FAILS OPEN

NASA FMEA	ASSESSMENT I	:=====================================	•
NUMBER	NUMBER	1	FAILURE MODE
05-6KF-2214 -1	FPC9-051	DRIVED (VODE)	·
	FRCS-953	DRIVER, HYBRID	FAILS OPEN
		DRIVER, HYBRID	FAILS OPEN
05-6KF-2220 -1	FRCS-956	DRIVER, HYBRID	FAILS OPEN
		DRIVER, HYBRID	FAILS OPEN
05-6KF-2224 -1	1	DRIVER, HYBRID	FAILS OPEN
05-6KF-2252 -3		DIODE	FAILS SHORT TO GROUND
05-6KF-2255E-2	i	DIODE	FAILS SHORT
	FRCS-599	DIODE	FAILS SHORT
	FRCS-621	DIOOE	FAILS SHORT
	FRCS-643	DIOOE	FAILS SHORT
05-6KF-2255F-2	FRCS-569	DIODE	FAILS SHORT
	FRCS-591	DIODE	FAILS SHORT
	FRCS-613	DIODE	FAILS SHORT
	FRCS-635	DIODE	FAILS SHORT
05-6KF-2258 -1		DIODE	FAILS OPEN
05-6KF-2258 -3	FRCS-11221X	DIODE	•
05-6KF-2259 -1	FRCS-913	DIODE	FAILS SHORT TO GROUND
	FRCS-919	DIODE	FAILS OPEN
i	FRCS-925	DIODE	FAILS OPEN
	FRCS-931	DIODE	FAILS OPEN
	FRCS-941	DIODE	FAILS OPEN
5-6KF-2259A-1	FRCS-911	DIODE	FAILS OPEN
i	FRCS-917	DIODE	FAILS OPEN
i	FRCS-923	DIODE	FAILS OPEN
i	FRCS-929	DIODE	FAILS OPEN
	FRCS-939	DIODE	FAILS OPEN
5-6KF-2260 -1		DIODE	FAILS OPEN
,	FRCS-915	DICOE	FAILS OPEN
i i	FRCS-921		FAILS OPEN
:	FRCS-927	DIODE	FAILS OPEN
;	FRCS-943	DIODE	FAILS OPEN
i i-6KF-2266 -1		DIODE	FAILS OPEN
OKI 2200 - 1	FRCS-11219X	DIODE	FAILS SHORT TO GROUND
ļ	FRCS-11220X	D100€	FAILS SHORT TO GROUND
į	FRCS-933	DIODE	FAILS OPEN
/VE 2270 4	FRCS-935	DIODE	FAILS OPEN
-6KF-2270 -1		DIODE	FAILS SHORT TO GROUND
(VE 2074 4 1	FRCS-945	DIODE	FAILS OPEN
-6KF-2271 -1		DIODE	FAILS OPEN
-6KF-2302 -1		SIGNAL CONDITIONER OF2	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
NE	FRCS-11196X	SIGNAL CONDITIONER OF3	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
f	FRCS-11202X	DIODE	FAILS OPEN (WORST CASE)
-	FRCS-11205X	MICROSWITCH	ERRONEOUS OUTPUT (WORST CASE)
l	FRCS-11206X	MICROSWITCH	
	FRCS-11213X	DIODE	ERRONEOUS OUTPUT (WORST CASE)
]	FRCS-11214X	DIODE	FAILS SHORT TO GROUND
1	FRCS-11215X	DIODE	FAILS SHORT TO GROUND
ĺ	FRCS-11216X	DIODE	FAILS SHORT TO GROUND
ĺ	FRCS-11217X	DIODE	FAILS SHORT TO GROUND
	FRCS-1144	CHAMBER PRESSURE (Pc) SENSOR, THRUSTERS F5L, F5R	FAILS SHORT TO GROUND
:	!	CHAMBER PRESSIBE (DA) SENSOR THRUSTERS FOL, FOR	INDICATES LOWER PRESSURE THAN ACTUAL
		CHAMBER PRESSURE (Pc) SENSOR, THRUSTERS F5L, F5R	FAILS ON, INDICATING HIGH PRESSURE

=====	=======================================			I FAILURE MODE		
1		ASSESSMENT ID	ITEM	PAILURE MODE		
N	ASA FMEA	ASSESSMENT ID	• • • • • • • • • • • • • • • • • • • •	i		
i,	NUMBER	1 NUMBER		}		
1 '	NUMBER	, Moriozia				
1			***************************************			
ļ.		1 4454	OX OR FU INJECTOR TEMP SENSOR, THRUSTERS F5L, F5R	INDICATES LOWER TEMPERATURE THAN ACTUAL		
NON	Ε	FRCS-1154	OX OK PO INDECTOR TENT SERSON, THROUGHT	INDICATES HIGHER TEMPERATURE THAN ACTUAL		
		FRCS-1155	OX OR FU INJECTOR TEMP SENSOR, THRUSTERS F5L, F5R	INDICATES HIGHER TEMPERATURE THAN NOTONE		
1		FKC2-1133	OX OX 10 INCLUSION 12.			
•				34 44 68 88 88 88 88 88 88 88 88 88 88 88 88		

APPENDIX D ICA RECOMMENDED CRITICAL ITEMS - AFT EPD&C

NASA FMEA NUMBER	ASSESSMENT ID NUMBER	I TEM	FAILURE MODE
03-2A-221317-1	ARCS-2322	HEATER 10W, THRUSTER, VERNIER, ALL AXES	
05-6KA-2007-1	ARCS-2008	FUSE, 1A	FAILS OPEN
	ARCS-2009	FUSE, 1A	FAILS OPEN
	ARCS-2011	FUSE, 1A	FAILS OPEN
	ARCS-2013	FUSE, 1A	FAILS OPEN
	ARCS-2017	FUSE, 1A	FAILS OPEN
	ARCS-2018	FUSE, 1A	FAILS OPEN
	ARCS-2020	FUSE, 1A	FAILS OPEN
	ARCS-2022	FUSE, 1A	FAILS OPEN
5-6KA-2010-1	ARCS-2314	FUSE, 1A	FAILS OPEN
5-6KA-2011-1	ARCS-2310	FUSE, 1A	FAILS OPEN
	ARCS-2311	FUSE, 1A	FAILS OPEN
	ARCS-2312	FUSE, 1A	FAILS OPEN
	ARCS-2313	FUSE, 1A	FAILS OPEN
5-6KA-2026-2	ARCS-12077X	L/R HE OX & FU ISOL VLV A OR B SWITCH	FAILS OPEN
	ARCS-12078X	L/R HE OX & FU ISOL VLV A OR B SWITCH	SWITCH SHORTS ACROSS CONTACT SET
	ARCS-12079X	L/R HE OX & FU ISOL VLV A OR B SWITCH	SWITCH FAILS SHORT (WORST CASE)
	ARCS-12080X	L/R HE OX & FU ISOL VLV A OR B SWITCH	SWITCH INADVERTENTLY OPENS/CLOSES
-6KA-2028-2	ARCS-12082X	L/R OX & FU TK ISOL VLV 1/2 SWITCH	SWITCH SHORTS TO CASE OR POLE TO PO
	ARCS-12083X	L/R OX & FU TK ISOL VLV 1/2 SWITCH	SWITCH FAILS SHORT (WORST CASE)
·	ARCS-12084X	L/R OX & FU TK ISOL VLV 1/2 SWITCH	SWITCH SHORTS ACROSS CONTACT SET
-6KA-2029-2		L/R OX & FU TK ISOL VLV 3/4/5 A OR B SWITCH	SWITCH INADVERTENTLY OPENS/CLOSES
		L/R OX & FU TK ISOL VLV 3/4/5 A OR B SWITCH	SWITCH FAILS WORST (WORST CASE)
		L/R OX & FU TK ISOL VLV 3/4/5 A OR B SWITCH	SWITCH SHORTS ACROSS CONTACT SET
-6KA-2035-1	ARCS-12256X	RJDA1B L1/L5/R1 MANIFOLD LOGIC SWITCH 3	SWITCH INADVERTENTLY OPENS/CLOSES
i	ARCS-12259X	RJDA1B L1/L5/R1 MANIFOLD LOGIC SWITCH 3	SWITCH FAILS OPEN (WORST CASE)
i	ARCS-12260X	RJDA1B L1/L5/R1 MANIFOLD LOGIC SWITCH 3	SWITCH INADVERTENTLY OPENS/CLOSES
i		RJDA1A L2/R2 MANIFOLD LOGIC SWITCH 3	SWITCH SHORTS TO CASE OR POLE TO POL
İ		RJDA1A L2/R2 MANIFOLD LOGIC SWITCH 3	SWITCH INADVERTENTLY OPENS/CLOSES
į	•	RJDA2B L3/R3/R5 MANIFOLD LOGIC SWITCH 3	SWITCH SHORTS TO CASE OR POLE TO POL
i		RJDA2B L3/R3/R5 MANIFOLD LOGIC SWITCH 3	SWITCH FAILS OPEN (WORST CASE)
į		RJDA2B L3/R3/R5 MANIFOLD LOGIC SWITCH 3	SWITCH INADVERTENTLY OPENS/CLOSES
i		RJDA2A L4/R4 MANIFOLD LOGIC SWITCH 5	SWITCH SHORTS TO CASE OR POLE TO POL
i		RJDA2A L4/R4 MANIFOLD LOGIC SWITCH 5	SWITCH FAILS OPEN (WORST CASE)
-6KA-2036-1		RJDA1B L1/R1 MANIFOLD DRIVER SWITCH 4	SWITCH SHORTS TO CASE OR POLE TO POL
-6KA-2037-1		MANIFOLD 1, JETS HEATER CONTROL SWITCH 9	SWITCH SHORTS TO CASE OR POLE TO POL
į		MANIFOLD 1, JETS HEATER CONTROL SWITCH 9	SWITCH FAILS OPEN (WORST CASE)
Ì		MANIFOLD 1, JETS HEATER CONTROL SWITCH 9	SWITCH SHORTS ACROSS CONTACT SET
İ		MANIFOLD 2, JETS HEATER CONTROL SWITCH 10	SWITCH SHORTS TO CASE OR POLE TO POLI
Ì		MANIFOLD 2, JETS HEATER CONTROL SWITCH 10	SWITCH FAILS OPEN (WORST CASE)
i		MANIFOLD 2, JETS HEATER CONTROL SWITCH 10	SWITCH SHORTS ACROSS CONTACT SET
i		MANIFOLD 3, JETS HEATER CONTROL SWITCH 11	SWITCH SHORTS TO CASE OR POLE TO POLE
i		MANIFOLD 3, JETS HEATER CONTROL SWITCH 11	SWITCH FAILS OPEN (WORST CASE)
į	•	MANIFOLD 3, JETS HEATER CONTROL SWITCH 11	SWITCH SHORTS ACROSS CONTACT SET
i	•	MANIFOLD 4, JETS HEATER CONTROL SWITCH 12	SWITCH SHORTS TO CASE OR POLE TO POLE
İ	•		SWITCH FAILS OPEN (WORST CASE)
•	,	MANIFOLD 4, JETS HEATER CONTROL SWITCH 12	SWITCH SHORTS ACROSS CONTACT SET

	ASSESSMENT ID NUMBER	:=====================================	FAILURE MODE
	4574FV	MANIFOLD 4, JETS HEATER CONTROL SWITCH 12	SWITCH SHORTS TO CASE OR POLE TO POLE
	ARCS-12315X	L/R OX & FU CROSSFEED VLV 1/2 SWITCH 32, 34	SWITCH FAILS SHORT (WORST CASE)
5-6KA-2039-2	•	L/R OX & FU CROSSFEED VLV 1/2 SWITCH 32, 34	SWITCH SHORTS ACROSS CONTACT SET
1	ARCS-12127X	L/R OX & FU CROSSFEED VLV 1/2 SWITCH 33 35	SWITCH FAILS SHORT (WORST CASE)
1	ARCS-12147X	L/R OX & FU CROSSFEED VLV 3/4/5 SWITCH 33, 35	SWITCH SHORTS ACROSS CONTACT SET
l	ARCS-12148X	L/R OX & FU CROSSFEED VLV 3/4/5 SWITCH 33, 35	SWITCH FAILS OPEN (WORST CASE)
5-6KA-2042-1	ARCS-12316X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 13	SWITCH SHORTS ACROSS CONTACT SET
1	ARCS-12318X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 13	SWITCH SHORTS TO CASE OR POLE TO POLE
1	ARCS-12320X	MANIFOLD 5, JETS HEATER CONTROL SWITCH 13	FAILS OPEN
5-6KA-2094-1	ARCS-2046	RESISTOR, 1.2K 2W	FAILS OPEN
j	ARCS-2056	RESISTOR, 1.2K 2W	:
	ARCS-2062	RESISTOR, 1.2K 2W	FAILS OPEN
i	ARCS-2074	RESISTOR, 1.2K 2W	FAILS OPEN
i	ARCS-2106	RESISTOR, 1.2K 2W	FAILS OPEN
	ARCS-2116	RESISTOR, 1.2K 2W	FAILS OPEN
 	ARCS-2128	RESISTOR, 1.2K 2W	FAILS OPEN
or (va 2111-1	ARCS-2044	RESISTOR, 1.2K 2W	FAILS OPEN
05-6KA-2111-1	l	RESISTOR, 1.2K 2W	FAILS OPEN
	ARCS-2096	RELAY	FAILS OPEN (DE-ENERGIZED)
05-6KA-2126-1	ARCS-1545	:	FAILS OPEN (DE-ENERGIZED)
	ARCS-1547	RELAY	FAILS OPEN
05-6KA-2127-1	ARCS-1551	RELAY	FAILS OPEN
	ARCS-1555	RELAY	FAILS HIGH
05-6KA-2127-2	ARCS-1552	RELAY	FAILS HIGH
	ARCS-1556	RELAY	FAILS HIGH (ENERGIZED)
05-6KA-2136-2	ARCS-1542	RELAY	FAILS HIGH (ENERGIZED)
	ARCS-1544	RELAY	FAILS CLOSED (FAILS IN ENERGIZED POSITION)
05-6KA-2137-2	ARCS-1550	RELAY	FAILS HIGH
	ARCS-1554	RELAY	•
05-6KA-2178-1	ARCS-12020X	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KA-2184-1	ARCS-1905	CONTROLLER, REMOTE POWER	FAILS OPEN
	ARCS-1907	CONTROLLER, REMOTE POWER	FAILS OPEN
05-6KA-2185-1	ARCS-2001	DRIVER, HYBRID	FAILS OPEN
03 0KH E103 1	ARCS-2003	DRIVER, HYBRID	FAILS OPEN
05-6KA-2210-2	ARCS-12025X	DRIVER, HYBRID	FAILS HIGH
	•	DRIVER, HYBRID	FAILS HIGH
05-6KA-2210A-2	ARCS-12023A	DRIVER, HYBRID	FAILS OPEN
05-6KA-2211-1	•	DRIVER, HYBRID	FAILS OPEN
05-6KA-2213A-1		DRIVER, HYBRID	FAILS OPEN
05-6KA-2216-1	•	· ·	FAILS OPEN
	ARCS-2302	DRIVER, HYBRID	FAILS OPEN
	ARCS-2304	DRIVER, HYBRID	FAILS OPEN
	ARCS-2306	DRIVER, HYBRID	FAILS OPEN
05-6KA-2220-1	ARCS-1997	DRIVER, HYBRID	FAILS OPEN
	ARCS-1999	DRIVER, HYBRID	FAILS OPEN
05-6KA-2222-1	ARCS-2308	DRIVER, HYBRID	FAILS OPEN
05-6KA-2224-1	ARCS-12034X	DRIVER, HYBRID	FAILS SHORT TO GROUND
05-6KA-2252-3	ARCS-12340X	D100E	•
	ARCS-12341X	DIODE	FAILS SHORT TO GROUND
	ARCS-12342X	DIODE	FAILS SHORT TO GROUND
	ARCS-12343X	DICODE	FAILS SHORT TO GROUND
05-6KA-2253E-2	•	DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
		DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT

NASA FMEA	ASSESSMENT ID		· · · · · · · · · · · · · · · · · · ·
NUMBER	NUMBER	!	FAILURE MODE
05-6KA-2254F-2	ARCS-12122Y	DIODE - MANUAL CLOSE/OPEN INHIBIT	
05-6KA-2255E-2		DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
	ARCS-12221X	DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
	ARCS-12237X	DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
	ARCS-12253X	DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
05-6KA-2255F-2		DIODE - MANUAL CLOSE/OPEN INHIBIT	FAILS SHORT
	ARCS-12223X	DIODE - MANUAL CLOSE/OPEN INHIBIT	FAILS SHORT
	ARCS-12239X	DIODE - MANUAL CLOSE/OPEN INHIBIT	FAILS SHORT
	ARCS-12255X	DIODE - MANUAL CLOSE/OPEN INHIBIT	FAILS SHORT
05-6KA-2257-2	ARCS-12037X	DIODE	FAILS SHORT
05-6KA-2257C-1		DIODE	FAILS SHORT
	ARCS-12050X	DIODE	FAILS OPEN
05-6KA-2258-1	ARCS-12052X	DIODE	FAILS OPEN
OF (1/4 DOSS =	ARCS-12344X	DIODE	FAILS OPEN
OF /// 0050 1	ARCS-1915	•	FAILS SHORT TO GROUND
	ARCS-1923	DIODE	FAILS OPEN
	ARCS-1927	D100E	FAILS OPEN
	ARCS-1927	DIODE	FAILS OPEN
		DIODE	FAILS OPEN
, I	ARCS-1955	DIODE	FAILS OPEN
	ARCS-1961	DIODE	FAILS OPEN
; 	ARCS-1969	DIODE	FAILS OPEN
: :::::::::::::::::::::::::::::::::	ARCS-1917	DIODE	FAILS OPEN
ן אנצבו אוס פיי		D100E	FAILS OPEN
!	ARCS-1925	DIODE	FAILS OPEN
!	ARCS-1929	DIODE	FAILS OPEN
	ARCS-1937	D100E	FAILS OPEN
i •	ARCS-1951	DIODE	FAILS OPEN
1	ARCS-1957	DIODE	FAILS OPEN
į,	ARCS-1963	DIODE	FAILS OPEN
 5-6KA-2260-1	ARCS-1971	DIODE .	FAILS OPEN
:	ARCS-12345X	DIODE	FAILS SHORT TO GROUND
ļ	ARCS-12346X	DIODE	FAILS SHORT TO GROUND
!	ARCS-12349X	DIODE	FAILS SHORT TO GROUND
!	ARCS-12350X	DIODE	FAILS SHORT TO GROUND
ļ	ARCS-12353X	DIODE	FAILS SHORT TO GROUND
!	ARCS-12354X	DIODE	FAILS SHORT TO GROUND
		DIODE	FAILS SHORT TO GROUND
i		DIODE	FAILS SHORT TO GROUND
	•	DIODE	FAILS SHORT TO GROUND
!	ARCS-1909	DIODE	FAILS OPEN
ļ	ARCS-1911	DICOE	FAILS OPEN
	ARCS-1931	DICOE	FAILS OPEN
	ARCS-1941	DIODE	FAILS OPEN
1	ARCS-1943	DIODE	FAILS OPEN
1.	ARCS-1945	DIODE	FAILS OPEN
1	ARCS-1965	DIODE	FAILS OPEN
•		DIODE	FAILS OPEN
-6KA-2261E-2	ARCS-12143X 1	DIODE - MANUAL OPEN/CLOSE INHIBIT	
1 /		DIODE - MANUAL OPEN/CLOSE INHIBIT	FAILS SHORT
-6KA-2265-1 /		DIODE	FAILS SHORT

NASA FMEA	ASSESSMENT ID NUMBER	I TEM	FAILURE MODE
AP 414 DD4F 4		DIANE	FAILS SHORT TO GROUND
05-6KA-2265-1	ARCS-12348X	DIODE	FAILS SHORT TO GROUND
	ARCS-12351X	DIODE	FAILS SHORT TO GROUND
	ARCS-12352X	DIODE	FAILS SHORT TO GROUND
	ARCS-12355X	DIODE	FAILS SHORT TO GROUND
	ARCS-12359X	DIODE	FAILS SHORT TO GROUND
	ARCS-12360X	DIODE	FAILS OPEN
	ARCS-1913	DIODE	FAILS SHORT
	ARCS-1920	D100E	FAILS OPEN
	ARCS-1933	D100E	FAILS OPEN
	ARCS-1939	D100E	FAILS OPEN
	ARCS-1953	DIODE	FAILS OPEN
	ARCS-1959	DIODE	<u>.</u>
	ARCS-1967	DIODE	FAILS OPEN
	ARCS-1973	DIODE	FAILS OPEN
05-6KA-2265-2	ARCS-1912	DIODE	FAILS SHORT
	ARCS-1921	DIODE	FAILS OPEN
	ARCS-1932	DIODE	FAILS SHORT
	ARCS-1938	DIODE	FAILS SHORT
	ARCS-1952	DIODE	FAILS SHORT
	ARCS-1958	DIODE	FAILS SHORT
	ARCS-1966	DIODE	FAILS SHORT
	ARCS-1972	DIODE	FAILS SHORT
05-6KA-2270-1	ARCS-12361X	DIODE	FAILS SHORT TO GROUND
	ARCS-12362X	DIODE	FAILS SHORT TO GROUND
	ARCS-1977	DIODE	FAILS OPEN
	ARCS-1979	DIODE	FAILS OPEN
05-6KA-2271-1	ARCS-1919	DIODE	FAILS OPEN
	ARCS-1947	D100E	FAILS OPEN
05-6KA-2280-1	ARCS-12072X	CIRCUIT BREAKER	FAILS OPEN
05-6KA-2302-1	ARCS-12322X	SIGNAL CONDITIONER OL2	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
	ARCS-12324X	SIGNAL CONDITIONER OR2	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
05-6KA-23Q3-1	ARCS-12321X	SIGNAL CONDITIONER OL1	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
	ARCS-12323X	SIGNAL CONDITIONER OR1	INCORRECT OR LOSS OF OUTPUT (WORST CASE)
NONE	ARCS-12329X	DIODE	FAILS OPEN (WORST CASE)
	ARCS-12332X	MICROSWITCH	ERRONEOUS OUTPUT (WORST CASE)
	ARCS-2334	THERMOSTAT, PRIMARY THRUSTERS, +X AXIS	FAILS TO CLOSE (FAILS OPEN).
	ARCS-2336	THERMOSTAT, PRIMARY THRUSTERS, Y AXIS	FAILS TO CLOSE (FAILS OPEN).
	ARCS-2338	THERMOSTAT, PRIMARY THRUSTERS, Z AXIS	FAILS TO CLOSE (FAILS OPEN).
	ARCS-2340	THERMOSTAT, VERNIER THRUSTERS, ALL AXES	FAILS TO CLOSE (FAILS OPEN).